

Chapter 7

CDH - Going Beyond CD & CDS

*“The progressive development of man is vitally dependent on invention. It is the most important product of his creative brain.”
~ Nikola Tesla*

This protocol is constantly evolving, and until every autism sufferer recovers, we will continue to search for things to add or tweak to the protocol so we reach that goal. A few months before the release of this second edition, I was made aware of a new method of CD preparation, known as *Chlorine Dioxide Holding (solution)* or simply CDH.

CDH can almost be described as a hybrid between classic CD and CDS. Where CDS has no raw material left in the final product, but only chlorine dioxide gas dissolved in water, CDH contains some raw material (similar to classic CD) along with the chlorine dioxide in the final product. This new process allows the sodium chlorite to react with the acid for a significantly longer period of time, thereby reducing much of the remaining amount of unactivated sodium chlorite and activator. Some people can not tolerate citric acid so CDH is usually made with 4% HCl. Initial reports indicate that CDH is better tolerated than CD.

Another interesting benefit of CDH is that it appears to mix well with the permitted natural sweetener Stevia (Sweetleaf™ brand) without reducing the potency of CDH. This can help children who have an aversion to the taste of CD. Many families have also reported that they were able to increase their child's dose without producing a Herxheimer reaction, in contrast to classic CD. Older children and severely affected children have benefitted as well from the CDH preparation; **you can read more about that on pgs x-x.**

Currently, this new method is being used by a relatively small group of

families (around 70 as of November, 2013). Many of them are reporting that CDH continues to produce results for their children on the spectrum, and they are seeing even better things than before.

As with all new things, it is important to test with a diverse group of families over a long enough time period to make sure that gains are sustained. So we ask that you please keep in mind that CDH is literally the bleeding edge of this protocol. While we are excited to share a new option with you, the decision to use CDH must not be taken lightly. If you are doing well with classic CD you may never need to use CDH. Consider the old saying, "If it ain't broke, don't fix it." **Of the 110 children who have lost their autism diagnosis, 108 have done so with CD and 1 with CDS. So far, 0 with CDH.** I expect this number to change soon as we are seeing good things from CDH. Time will tell. Stay tuned.

Scott McRae, his wife Brenda, and Charlotte Lackney have been pioneers in developing the CDH method. The following section is written by Scott where he discusses how CDH evolved along with detailed instructions on how to prepare and use it.

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My wife, Brenda, and I first learned about CD early in 2009, through Bhante Vimalaramsi, an American born Buddhist monk. He's now a very close friend of ours, and even as I'm writing this, I'm at a meditation retreat which is based upon his understanding of the open-minded, experiential teaching of the Buddha.

After receiving our first set of CD bottles from an online seller, we started by trying to get to 15 drops of CD activated with lemon juice for 3 minutes, twice a day, which was the protocol at the time. Though we gave it a good effort, we couldn't get past 6 drops before vomiting and having diarrhea, and this caused us to initially stop taking CD. Then, after moving to Jakarta, Indonesia (Brenda's home town), I experienced almost monthly illnesses, which I believe was due to being in a new and tropical part of the world (I'm from San Diego, CA), riding in public transportation twice a day and teaching in a school of over 300 students. After a year and a half of constantly being sick, I remembered



Scott & Brenda McRae from Jakarta, Indonesia

our bottles of CD which we had fortunately brought with us from the US, and I started on Protocol 1000. By that time, *Protocol 1000* had been developed to be what it is now—3 drops of CD (activated for 20 seconds with 50% citric acid) per hour, 8 times a day—and so I decided to do the 3 week cleanse. By doing the cleanse, I experienced a huge improvement in my health. Not only did I immediately stop getting sick, but I also felt that my energy level had increased by about 25%! Obviously, I was excited by these great results and so was my wife because she had started taking CD again as well. However, even though our results were great and our experience was far better than before with the old, “try to get to 15 drops twice a day protocol,” we still were having some nausea and bouts with diarrhea when we took CD. This was especially true at the times when we felt the symptoms of a cold or flu and tried to take more than the 3 drops doses in order to overcome it. Still the results we were getting with CD on Protocol 1000 outweighed the nausea and diarrhea that we experienced and so we continued using it, especially when we felt some sickness coming on.

After taking CD for about a year in this way, CDS hit the CD world. Being the experimental type, I decided to give it a try. After searching all over Jakarta for the plastic tubing for a couple of days and finally finding it, I made our first batch of CDS. We both tried CDS for about six months but found it to be less effective than CD, so we stopped with

CDS and went back to CD and Protocol 1000.

Nevertheless, there were 2 things I really liked about CDS: (1) it NEVER caused us any nausea or diarrhea, and (2) it was so easy to use since it was pre-made (no mixing of chemicals before each use). The main thing for me was not having any more nausea because I really disliked feeling sick. So, I started thinking about CDS and my experience with making it and I came to the conclusion that possibly, the reason why CDS wasn't nauseating was because there wasn't any unactivated sodium chlorite in the solution—it was just chlorine dioxide dissolved in water. I remembered that when I made CDS myself, even after the activation process had gone on for an hour in a heated condition, if I stirred or swirled the activation chamber bottle, more ClO_2 would still come out of it. This got me to thinking... if the chemical reaction between the sodium chlorite and the 50% citric acid solution used to make the CDS was still able to produce more chlorine dioxide after an hour in a heated condition, then surely the 24 drops that I was using to make my daily CD dosing bottle weren't being fully activated after just 20 seconds.

Based on the above reasoning, I hypothesized that the primary cause of nausea was some leftover sodium chlorite in the CD doses due to a shorter than needed activation time. The hypothesis was reinforced by two separate occasions where I had drunk about 5 drops of raw sodium chlorite (without the added activator) in a glass of water and then had to vomit after just 15-20 minutes. This was some real good personal, experiential data that led me to believe, at least for myself, that nausea was caused by sodium chlorite that had not been turned into chlorine dioxide.

To test my hypothesis, I increased the activation time and tried it out on myself first and then my wife (aren't I considerate?). We both found there was no longer a nausea problem, even when taking more drops per hour than we had ever taken before.

Since I was in an experimental mode, I decided to see if I could make larger quantities of concentrated CD all at once to make it more convenient. I mixed equal amounts of sodium chlorite and 50% citric acid in a bottle, let it activate for about a minute, and then added a specific amount of

hot water to further encourage the activation process. In the end, I had a total of 140 ml of this concentrated CD solution. Later, I found that hot water wasn't necessary and that room temperature water worked even better because there was less ClO₂ gas lost in the process.

The finished chemistry was indeed very strong and still didn't cause any nausea, so I was compelled to post my discovery on the Genesis II Forum. I named it *7 Day Fridge MMS (CD)* because it provided a 7 day supply of Protocol 1000. The ingredients added up to 140 ml, so each 20 ml was 1/7th of the total, or a one day supply of "pre-activated" CD similar to Protocol 1000. This made taking CD every day really easy. Just pour out 20ml of the new concentrated solution into a water dosing bottle, and then pour out 1/8th of the bottle every hour into some water in a glass, and drink it.

The *7 Day Fridge MMS (CD)* method worked great for my wife and me. Others on the Forum also tried it and liked it. In addition, I gave it to some people at the school where I work to overcome their colds (usually overnight) as well as other diseases within a short time.

About 18 months later, Charlotte, my Forum friend, began testing the *7 Day Fridge MMS (CD)* process to determine the actual ClO₂ content using her *Sensafe™* Chlorine Dioxide Photometer. Over several months, we worked together to further refine the *7 Day Fridge* method. The result of all of our testing and refinements is this new and exciting CDH product.

The final formula came out to be:

22 parts water	91.6%
1 part sodium chlorite	4.2%
1 part HCl (4%) or Citric Acid (35%)	4.2%
Total Solution	100%

I believe this new way of making CD will be of great benefit to humanity because it will allow people to gradually double or even triple the amount of CD they can take with little or no stomach upset. By increasing their doses to higher levels, people will be able to overcome CD treatable diseases more quickly than ever before.

As with any new technology, more changes and developments are likely. For example, we now know that CDH tastes much better if activated with hydrochloric acid instead of citric acid.

Producing CDH

Making CDH is really quite simple. You can use any size of bottle, and produce any quantity you wish, as long as you follow the basic instructions and keep the proportions the same. However, before diverting into different quantities, it is recommended you follow these directions exactly to insure you have the process down correctly.

Note the following volume equivalents:

Fluid Ounce (U.S.) Approximate Equivalents

30ml	=	1 fl. oz. US (2 Tablespoons)
660ml	=	22 fl. oz. US
720ml	=	24 US fl. oz. US
750ml	=	25 US fl. oz. US

Equipment Needed

- One 750ml (25 fl. oz. US) glass bottle with an airtight cap. DO NOT use a metal cap (even if it is lined with plastic). The best caps are plastic or even a synthetic cork in good condition. A common 750ml wine bottle is ideal for this as you can get them colored to reduce possible UV exposure (the darker the better). But, a colored bottle is not absolutely necessary and using a clear one will allow you to actually see the chemical reaction as it turns from clear to yellow.
- Three 240ml (8 fl. oz. US) bottles ideally made of colored glass to protect the CDH from UV light (the darker the better), but colored bottles are not absolutely necessary. You can also use smaller bottles if you like—these are just used to divide up the resulting 720ml of CDH into smaller bottles to help retain the ClO_2 concentration while opening and closing the bottles during dosing. Schweppes™ sells 6-packs of Ginger Ale, Club Soda and



Tonic Water in 10 fl. oz. glass bottles with plastic lids that are great for this purpose, and hold 300ml easily. Only the Ginger Ale is in a colored bottle (green), the others are clear.

- One measuring cup or graduated cylinder to accurately measure liquid in either milliliters or fluid ounces.

Ingredients Needed

Ingredients should be at room temperature—not cold. If CD and/or activator are right out of the refrigerator make your water warmer to offset, or allow ingredients to warm up before using.

- 660ml of distilled or purified water at about 70° - 90°F (21° - 32° C).
- 30ml of sodium chlorite (22.4% solution) near room temperature or slightly above.
- 30ml of 4% Hydrochloric Acid (HCl) or 35% Citric Acid (C₆H₈O₇) near room temperature or slightly above.

Note: The amounts indicated above add up to 720ml, while the wine bottle easily has room for an additional 30ml and more. Refer to the chart on [page 174](#) if you wish to produce a different batch amount.

The CDH Formulation Table and Different Acid Concentrations

What if you have 10% Hydrochloric acid or 50% Citric Acid (very common)? Or, you wish to use a different size of bottle? Not a problem. These acids can still be used. However, the formula changes accordingly.

The table on [page 174](#) is a great tool for determining the formula for a given bottle size. To use the table, start by circling the size of the bottle you wish to fill in the left most column. Next look at the acid you have and its labelled concentration. Match that with one of the 4 options across the top. Below the matching acid/concentration you will find the 3 formulation numbers for water, sodium chlorite (labeled “SC”), and whatever acid you are using. Just go down the appropriate 3 columns to where the bottle size line intersects and you will have the numbers you need. Substitute these numbers in the following preparation

CDH Formulation Table

SC=Sodium Chlorite / HCl=Hydrochloric Acid / CA=Citric Acid

Water Bottle (ml)	Hydrochloric Acid 4%			Hydrochloric Acid 10%			Citric Acid 35%			Citric Acid 50%		
	Water (ml)	SC (ml)	HCl (ml)	Water (ml)	SC (ml)	HCl (ml)	Water (ml)	SC (ml)	CA (ml)	Water (ml)	SC (ml)	CA (ml)
10	9.2	0.4	0.4	9.4	0.4	0.2	9.2	0.4	0.4	9.3	0.4	0.3
20	18.3	0.8	0.8	18.8	0.8	0.3	18.3	0.8	0.8	18.6	0.8	0.6
30	27.5	1.3	1.3	28.3	1.3	0.5	27.5	1.3	1.3	27.9	1.3	0.9
40	36.7	1.7	1.7	37.7	1.7	0.7	36.7	1.7	1.7	37.2	1.7	1.2
50	45.8	2.1	2.1	47.1	2.1	0.8	45.8	2.1	2.1	46.5	2.1	1.5
60	55.0	2.5	2.5	56.5	2.5	1.0	55.0	2.5	2.5	55.8	2.5	1.7
70	64.2	2.9	2.9	65.9	2.9	1.2	64.2	2.9	2.9	65.0	2.9	2.0
80	73.3	3.3	3.3	75.3	3.3	1.3	73.3	3.3	3.3	74.3	3.3	2.3
90	82.5	3.8	3.8	84.8	3.8	1.5	82.5	3.8	3.8	83.6	3.8	2.6
100	91.7	4.2	4.2	94.2	4.2	1.7	91.7	4.2	4.2	92.9	4.2	2.9
150	137.5	6.3	6.3	141.3	6.3	2.5	137.5	6.3	6.3	139.4	6.3	4.4
200	183.3	8.3	8.3	188.3	8.3	3.3	183.3	8.3	8.3	185.8	8.3	5.8
250	229.2	10.4	10.4	235.4	10.4	4.2	229.2	10.4	10.4	232.3	10.4	7.3
300	275.0	12.5	12.5	282.5	12.5	5.0	275.0	12.5	12.5	278.8	12.5	8.7
350	320.8	14.6	14.6	329.6	14.6	5.8	320.8	14.6	14.6	325.2	14.6	10.2
400	366.7	16.7	16.7	376.7	16.7	6.7	366.7	16.7	16.7	371.7	16.7	11.7
450	412.5	18.8	18.8	423.8	18.8	7.5	412.5	18.8	18.8	418.1	18.8	13.1
500	458.3	20.8	20.8	470.8	20.8	8.3	458.3	20.8	20.8	464.6	20.8	14.6
550	504.2	22.9	22.9	517.9	22.9	9.2	504.2	22.9	22.9	511.0	22.9	16.0
600	550.0	25.0	25.0	565.0	25.0	10.0	550.0	25.0	25.0	557.5	25.0	17.5
650	595.8	27.1	27.1	612.1	27.1	10.8	595.8	27.1	27.1	604.0	27.1	19.0
700	641.7	29.2	29.2	659.2	29.2	11.7	641.7	29.2	29.2	650.4	29.2	20.4
720	660.0	30.0	30.0	678.0	30.0	12.0	660.0	30.0	30.0	669.0	30.0	21.0
750	687.5	31.3	31.3	706.3	31.3	12.5	687.5	31.3	31.3	696.9	31.3	21.9
800	733.3	33.3	33.3	753.3	33.3	13.3	733.3	33.3	33.3	743.3	33.3	23.3
850	779.2	35.4	35.4	800.4	35.4	14.2	779.2	35.4	35.4	789.8	35.4	24.8
900	825.0	37.5	37.5	847.5	37.5	15.0	825.0	37.5	37.5	836.3	37.5	26.2
950	870.8	39.6	39.6	894.6	39.6	15.8	870.8	39.6	39.6	882.7	39.6	27.7
1000	916.7	41.7	41.7	941.7	41.7	16.7	916.7	41.7	41.7	929.2	41.7	29.2

instructions if your situation calls for it.

Preparation Instructions

Follow the steps of mixing ingredients in this order (assuming you are using the 750ml glass bottle):

1. Pour 660ml of purified water into the 750ml glass bottle.
2. Add 30ml of sodium chlorite to the 750ml glass bottle.
3. Add 30ml of 4% HCl or 30ml of 35% citric acid to the 750ml glass bottle.
4. Immediately cap/cork the bottle tightly so that no ClO₂ gas can escape and give it a good shake to thoroughly mix the ingredients (and a few more times later on if possible).
5. Store the bottle in a dark place with a temperature of 70°F to 90°F (21°C to 32°C) for 12 to 24 hours or more (24 hours or longer if you're in a cold environment—below 70°F (21°C)).



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6. After the storage time has passed, place the bottle of CDH into the refrigerator (not the freezer) and allow it to cool down for 3+ hours before opening it for the first time. The temperature of the solution should be no more than 51°F (10.5° C). Note: If you are using a significantly smaller bottle, cool down time can be reduced because the smaller volume of solution will cool faster.
7. Finally, pour the CDH from the 750ml bottle into the smaller bottles, cap tightly and keep refrigerated until ready to use. The smaller bottle are easier to dose from and they also help reduce the number of times gas can escape reducing the potency of the solution.

Using CDH

The CDH is now ready for use. Each milliliter of CDH solution contains 1 pre-activated drop of CD. It can be used for ANYTHING that CD is used for; viruses, bacteria, yeast, parasites, heavy metals, enemas, tub baths, gums & teeth, skin care, infections, etc.

When used orally, each 1ml of CDH should be added to at least 20ml of water. You can add even more water to lessen throat irritation. If taste is an issue, a little bit of Stevia may be added to each dose to improve taste by sweetening it. Some of the moms are adding Sweetleaf® Natural Stevia Sweetener to their daily bottle and report no negative impact on ppm level.

Although CDH is strong, it is less nauseating than traditional CD. You should be able to start at whatever drop dose you were on with CD and switch to an equivalent milliliter dose of CDH and gradually increase to tolerance. Typically, people are able to take 2 to 3 times as much of CDH as traditional CD, without experiencing nausea.

The CDH bottle should be kept refrigerated and only taken out to extract doses. Since 720ml is a fairly large quantity that may take many days to finish, it's a good idea to take the 720 ml and divide it up into 3 smaller 240ml bottles ($720\text{ml} \div 3 = 240\text{ml}$) so you won't lose much of the ClO_2 each time you open the bottle. By doing this, you will conserve as much of the ClO_2 as



possible. It's also easier to extract doses from a smaller bottle using a syringe or pipette.

Also, keep the CDH bottle out of direct or indirect sunlight to prevent loss of ClO_2 . If you make a dosing bottle for the day, it's best to keep it cold, but it is not absolutely necessary.

A little note about taste: Most people who complain about the bad taste of CD, CDS or CDH (which does not have any taste at low doses) are actually reacting to the smell of the ClO_2 which can lead to developing a long-term aversion to any of the treatment solutions. So, if you can minimize the gas floating around your nose, you will have an easier time with drinking the CD, CDS or CDH dose. To accomplish this, Charlotte suggested avoiding the use of a cup or wide mouth drinking bottle. Instead, use a bottle with a small opening such as a common water bottle (preferably made of glass). Of course, if the smell doesn't bother you, this is a moot point, but at least you have this little trick if it does.

Well, that's all you need to know to get started on this great new way to make and use CD. May this new CDH formulation bring you and your family much health and happiness.

Scott McRae
Jakarta, Indonesia
November, 2013

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We appreciate Scott, Brenda and Charlotte's contribution to the variety of ways to produce and use chlorine dioxide. Be sure to check the Facebook groups and forums for the latest developments on CDH.

Some of you may feel overwhelmed by what you just read. So, let me give you my "Easy-Peasy" single paragraph method of making CDH: I take a 600ml Lifefactory™ bottle, put in 550ml of water; add 25ml of sodium chlorite; followed by 25ml of 4% HCl (or 50% citric acid). Leave it 12 hours in a cabinet, after which it goes in the fridge for 2 or more hours.

Done! 😊