

### "Tiny Bubbles..."

### Gas Bubble Disease - a hazard of winter water changes

By Gary Lange

**W**HO CAN FORGET the song from immortal Don Ho?

Original by Don Ho:

<https://www.youtube.com/watch?v=t45DKmtzTHo>

- Tiny bubbles, in the wine,
- Make me happy, make me feel fine.
- Tiny bubbles, make me warm all over.
- With the feeling that I'm gonna
- Love you till the end of time.

And, in the fish tank as Paraphrased by Gary Lange:

- Tiny bubbles, makes me ill,
- Total destruction, in my gills,
- Tiny bubbles, makes me sick all over,
- With a feeling that I'm leaving
- Your little chilly fish tank behind.

**Ok, yeah Don's probably turning over in his grave with my lyrics.** It was a popular song to begin with but the tiny bubbles we can add to our fish tanks in the winter can be deadly.



A recent discussion on the [MASI Facebook discussions page](#) was about some of the problems an aquarist can have when the weather gets cold and our water supply gets down right chilly. You see, cold water can hold more gas than warm water and when the cold water in your pipes hits the warm house is going to lose some of those gases. The water when heated up in your hot water tank will release that gas even quicker and is then going to be under a bit of pressure.

[Turn on your hot water, let it get good and hot and then fill a tall clear glass.](#) You'll notice that the water is almost grey from all of the cloudy tiny micro bubbles that are bursting out of the water. If you let this set for a few more minutes you'll see bigger

bubbles all over the sides of the glass. It is a problem if you pour that water directly into your warm tank and the dissolved gas does not come out of solution until AFTER it passes through the gills of your fish and into their bloodstream. Yes it's a bit like like the divers bends so it can be, I would imagine, very painful for the fish and the gas once inside the fish can show up between the fin rays, in the eyes or elsewhere.

For years I really didn't worry about "Gas Bubble Disease (GBD)" as I would age my water in barrels usually for several hours with a hang on back type filter churning and splashing the water into the barrel. This turns out to be a great way, to remove that excess gas and I really didn't give it any thought. But several years ago when I



**After Air Stone for 10 minutes**



was in Detroit giving a talk in the winter time I was reminded by the Great Jim Langhammer\* that you do have to be careful, that "gas bubble disease", or whatever you want to call it, is real. Jim would routinely age his water for a day before using it—remember in Michigan the water comes out of the cold tap almost in icicle form in wintertime.

**A recent check of our local cold water supply yielded a temperature of 46 degrees F (8C) and way colder than the average 80 degree aquarium. I switched to using a vigorous pond pump to circulate the water in my barrels and it now takes an hour or two to help remove those bubbles.**

If you put water into your aquarium and still see a lot of bubbles forming on the glass you should probably wait a while longer to ensure that it degasses further. An airstone can be added to the barrel to help turn over the water and allow the excess gasses to escape.

The photo shows a good example of this where one container has hot water that was degassed with an airstone for 10 minutes and the other fresh out of the tap. The hot water out of the tap produced lots of bubbles on the sides of the container where there were almost none on the aerated, bubbled hot water.

**You really can't solve this problem by just using cold water and pouring that into your aquarium.**

That cold water has just as much air in it as the hot water but its not visible because the out-gassing bubbles haven't yet formed and coalesced. Hot water can't hold on to it once it's not under pressure and the gas bubbles form more readily. Adding really cold water to your tropical fish tank isn't the smartest thing to do anyway. If you mix in hot water with your cold tap water both sources of water will be spitting out their gasses quite quickly.

**There are more than a few people that will claim that they've done this for years** when the water was really cold and nothing happened to their fish. Sometimes it's not so extreme to cause immediate deaths but it may still cause a lot of stress in the fish. Several of the linked articles below point out that fish often come down with other diseases because of this stress. Bottom line, in cold weather, put it in a container, aerate it and degas before using. **Do this and you can keep your fish from singing my version of the "tiny bubble song"!**

**Additional reading:**

- Identification and diagnosis from the Toledo Zoo:

<https://www.advancedaquarist.com/2014/8/fish>

- GBD discussion with illustrations: [https://www.adfg.alaska.gov/static/species/disease/pdfs/fishdiseases/gas\\_bubble\\_disease.pdf](https://www.adfg.alaska.gov/static/species/disease/pdfs/fishdiseases/gas_bubble_disease.pdf)
- Causes of gas saturation, etc.: [http://www.aun.edu.eg/development/et/fish%20diseases/7\\_1.htm](http://www.aun.edu.eg/development/et/fish%20diseases/7_1.htm)

**\*Jim Langhammer is well known** throughout the Aquarium Hobby and respected for his activities with the American Livebearer Association (ALA) and efforts to save and educate about many of the Mexican endangered Goodeid species. The ALA maintains the [James K. Langhammer Fund for Conservation](#) in his honor. [Join the ALA for the ALA Convention, May 24-26<sup>th</sup> in Louisville, KY.](#)

**\*\* All blue underlined passages are Hot Linked to their topics!**



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*The Missouri Aquarium Society*

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