



THE SAFETY STOP

COJO's MONTHLY NEWSLETTER

On Location from: Marianna, Florida

ISSUE 63

What's New

Welcome to the **April 2016** edition of the **COJO Diving Safety Stop** newsletter.

March was totally busy!! During March **COJO** had **tons of courses** ongoing or starting. If that wasn't crazy enough, **Mike was on vacation** so hardly any work got done!! **Great job to the SEAL team** who was still hard at their aqua missions throughout the month as well. One more and they will be **PADI SEALs** and ready for the **Advanced Aqua Missions**!! Woo Hoo!!



COJOs World Headquarters in Lincoln, NB has been crazy busy and COJO would like to **thank all customers and friends** that have been in for everything from gear to courses to coffee and a talk!!

Don't forget about the **COJO Diving Annual Gear Sale and Swap Meet!!** This year it will be on **May 15th** at COJO Diving World Headquarters and it promises to be the best ever!!

Doc Octo is back with a new article on **Nitrogen Narcosis**!! This is a re-run that we asked Doc Octo if we could push out again because it has some really awesome information!! Thanks Doc!!

Need new gear but not sure you can afford it all at once? Don't forget about our awesome "**Rent to Own**" program!! Ask us for details!!

COJO Lincoln Store Hours:

Monday	5pm to 9pm
Tuesday	3pm to 9pm
Wednesday	3pm to 9pm
Thursday	5pm to 9pm
Friday	3pm to 9pm

Thanks and Safe Diving!!
Connie and Joe
COJO Diving



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Courses During March

During **March**, COJO ran a crazy amount of courses.

- **PADI** – **SEAL Team Course**
- **COJO** – **Discover Sidemount Diving**
- **PADI** – **Open Water Diver**
- **PADI** – **Discover Scuba Diving**
- **DAN** – **Oxygen Provider's course**
- **PADI** – **Enriched Air Diver course**
- **PADI** – **Divemaster course (Con't)**

Great job to all of the students!! Especially the **PADI SEAL** Team - **Liam, Jenna** and **Abel!!**





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Courses To Come

Looking ahead into **spring and beginning of summer**, we have plenty of courses scheduled!! We are getting booked up so if you are interested in any of the courses listed, don't delay!! Gets enrolled now!!!!

- 10 April – **PADI** – SEAL Team Graduation!! Woo Hoo!!
- 13 April – **PADI** – Enriched Air Diver course
- 16 April – **PADI** – Discover Scuba Diving
- 4 April – **PADI** – Dive Master course (Summer Course!!)
- 19 April – **DAN** – Oxygen Provider course
- Mar - May – **PADI** – Winter Session Open Water Course
- May 5 - 7 – **PADI** – Rescue Diver course
- 31 May - 5 June – **TDI** – Intro to Tech/Tech Sidemount – **Bathurst**
- 24 - 16 June – **PADI** – Advanced Open Water course

If you would like information on courses for 2016 or on our **Training Calendar**, contact us at cojodiving@gmail.com for more details!!





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Events During March

Kimble Cove Information Trip

Although this was not an actual event, the **Kimble Cove Information Trip** was a trip that Connie and Joe went on to assess the feasibility for the Kimble Cove Expedition. After a thorough assessment of all of the factors, COJO is **FULL STEAM AHEAD** on this expedition!! If you would like more information on the expedition, contact us at cojodiving@gmail.com or cojoexploration@gmail.com for the details. Also, **don't miss the Expedition Brief on 11 May 16!!** This is going to be an awesome expedition on a newly discovered wreck!!



Boston Sea Rovers

That's right!! **COJO** headed back to visit with **Diver Ed**, **Captain Evil**, **Andy Martinez**, **Rick Stanley** and World Famous **Jerry Shine** at the **Boston Sea Rovers** again this year. This time only for a day though because we were just too busy!! **Jerry Shine** did a totally awesome presentation on **Diving in Canada!!** Great Job Jerry, you hoser!!



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EVENTS TO COME!!

Kimble Cove Expedition Brief

This will be an **AWESOME EXPEDITION!!** It is set to be completed in **July of 2016**. We are looking for a crew of 10 to 12 people to help with the expedition. The details will be revealed at the **brief on May 11th!!** Don't miss out!! For more information on this or any COJO Expeditions, contact us at cojoexpedition@gmail.com or check out our **COJO Exploration Group Facebook page!!**



Kingsclear Expedition

That's right, on **May 21st** COJO is back exploring the lost town at **Kingsclear!!** More information on this and all of our expeditions can be found on the **COJO Exploration Group Facebook page!!** Look us up. If you would like to know more about any of our expeditions, please feel free to send us a note or come in to the World Headquarters and talk to our explorers!! This promises to be one of the best expeditions yet with tons of insight into the local community pre-Mactaquac Dam!





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And Now, Doc Octo!!



That which does not kill you,
makes you dumber

The other day I heard someone refer to a nasty case of herpes as "Cupid's measles". I started thinking that simply giving something a cute name doesn't stop it from being a rotten experience. The same can be said of nitrogen narcosis. Narcosis has often been romantically referred to as "the rapture of the deep" or "the martini effect". It makes getting "narked" sound like something that should happen at 3 a.m. while listening to Miles Davis. But on reflection, anything that makes me stupider at depth probably isn't all that cool. As you recall, nitrogen narcosis is a mental impairment caused by an increased partial pressure of nitrogen in the brain. In short, the deeper you go, the dumber you get. Take a look at this youtube link of a diver getting "narked" as he goes well below the recommended recreational limits of 40 meters or 130 feet (beware language). http://youtu.be/CKzW9gvcs_I or http://www.youtube.com/watch?feature=player_detailpage&v=CKzW9gvcs_I



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After watching this clip, I'm not sure what's creepier; the whole dumb stunt, the look on the diver's face or the cheesy music. The video does however beg one question. Just how stupid are you when narked? Well, apparently this is an easy question to answer. It turns out that if you tell sailors that you are doing a study where the end-point is getting them "f***ed-up," you have no shortage of volunteers. One particular US Navy study measured the time to complete mental tests and tabulated the number of errors, both on the surface and at various depths (Bove and Davis 2004). At 125 feet there was a 21 fold increase in the extra time to solve problems with a 2.3 fold increase in errors. That's how dumb you get just at recreational limits, you should see the data for greater depths! It is also interesting to note that while some divers claim to become acclimated to narcosis; their test scores still remain poor.

The recognized symptoms of narcosis are well known and listed in the table below (Lippmann and Mitchell 2005).

I don't know about you, but I find there is a certain cruelty to the timing of specific symptoms. Narcosis starts with euphoria and over-confidence followed by physical and mental impairment. Of course, the irony is that when you most need to be focused and have a sound assessment of your skills, your judgment is shot. This lends much support to the view that "nature hates you". Similarly, if this describes perhaps something you have seen or done yourself at the 20-20 club, you can also see why narcosis is called the "martini effect".

Signs and symptoms of narcosis (breathing air)

Pressure (bar)	Depth (m)	Depth (ft)	Comments
1-2	0-10	0-33	Unnoticeable minor symptoms, or no symptoms at all
2-4	10-30	33-100	Mild impairment of performance of unpracticed tasks Mildly impaired reasoning Mild euphoria possible
4-6	30-50	100-165	Delayed response to visual and auditory stimuli Reasoning and immediate memory affected more than motor coordination Calculation errors and wrong choices Idea fixation Over-confidence and sense of well-being Laughter and loquacity (in chambers) which may be overcome by self-control Anxiety (common in cold murky water)
6-8	50-70	165-230	Sleepiness, impaired judgment, confusion Hallucinations Severe delay in response to signals, instructions and other stimuli Occasional dizziness Uncontrolled laughter, hysteria (in chamber) Terror in some
8-10	70-90	230-300	Poor concentration and mental confusion Stupefaction with some decrease in dexterity and judgment Loss of memory, increased excitability
10+	90+	300+	Hallucinations Increased intensity of vision and hearing Sense of impending blackout, euphoria, dizziness, levitation , manic or depressive states Disorganization of the sense of time, changes in facial appearance Unconsciousness, Death



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As we all know, these symptoms and the depths at which they occur vary from individual to individual and dive to dive. Some divers are particularly sensitive to narcosis, while others seem impervious. Factors which make narcosis more likely to occur again fall under the “nature hates you” rubric. For example; cold, stress, heavy work, fatigue, and carbon dioxide retention all increase the risk and severity of narcosis (Hesser et al. 1978). So basically, when diving conditions are at their worst (such as poor visibility, cold, heavy task loading and heavy workloads) that's when we are most vulnerable.

Why nitrogen (or any gas) causes narcosis depends on how much that gas likes fat. It has been known for over 100 years that gases that readily dissolve in lipids (those fatty molecules that make up cell membranes) are the most likely to cause narcosis. You should know that while “Nitrogen goes for fat like a fat kid goes for cake”, some gasses are better and worse. The table below shows the lipid solubility and consequent narcotic potency of these gases.

Some components of breathing gases and their relative narcotic potencies:^{[2][FN 1][3]}

Gas	Relative narcotic potency
He	0.045
Ne	0.3
H ₂	0.6
N ₂	1.0
O ₂	1.7
Ar	2.3
Kr	7.1
CO ₂	20.0
Xe	25.6



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There are several important points to take away from this table. First, oxygen is in fact more narcotic than nitrogen. So if someone told you Nitrox would reduce your risk of narcosis because your mix has less nitrogen, they lied. Secondly, carbon dioxide is over 30 times more narcotic than nitrogen. Therefore, breath-holding behaviors or high workloads (making lots of carbon dioxide) are much more likely to cause narcosis. Third, since helium has very little narcotic property it is the ideal diluent for gas mixes intended to be used at depth. Again ironic, the gas that makes you sound the most messed-up, is the least likely to do so. Since its almost time for you to give the bathroom up to someone else, here are the take-home points;

1. Dive within recreational limits of 130 feet, unless on trimix.
2. Minimize dive conditions or practices that promote narcosis (depth, cold, poor visibility, high workloads, stress, breath holding, prior use of intoxicants).
3. If the symptoms of narcosis appear, move to shallower depth and decide on the wisdom of continuing the current dive plan.

"It seemed that I performed better sober than





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COJO “Rent To Own” Program

The **COJO “Rent to Own” Program** is born from the need for divers to get into their own gear sooner. You’ve already decided the diving sport is awesome and you want to go diving as much as you can! But spending money on rental gear doesn’t allow you to save up to buy your own gear. This program supports your dive habit AND gets you into your own gear sooner!

How It Works

- You set up an appointment for a gear consultation, and we put together your perfect gear package.
- We provide you a quote.
- You pay at least 30% deposit towards your personal **“Rent To Own”** gear package.
- Every time you rent items from our awesome rental fleet that are in the same category as your **“Rent To Own”** package, 100% of those rental fees go towards your gear package!
- Once you have at least 60% down towards your personal **“Rent to Own”** package, we’ll order in your shiny new gear for your personal rental use until your package is fully paid!

More detail is available on our website [here](#).

[Contact Us](#) to setup your appointment!



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PADI Rescue Diver Course

Course Price: **\$300.00+HST**

Scuba divers describe the **PADI Rescue Diver** course as the most challenging, yet most rewarding course they've ever taken. During the course you learn to prevent and manage problems in the water, and become more confident in your skills as a diver, knowing that you can help others if needed. You also learn to become a better buddy by practicing problem solving skills until they become second nature.

Pre Requisites are the PADI Advanced Open Water diver course and Emergency First Response or equivalent.

What will you learn?

The PADI Rescue Diver course prepares you to deal with dive emergencies, minor and major, using a variety of techniques. Through knowledge development and rescue exercises, you learn what to look for and how to respond. During rescue scenarios, you put into practice your knowledge and skills.



May 5 to 7th



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Featured Product

COJO "Critter Wear"

Wolf Fish Print currently in Stock



T-Shirts Regular \$25.00
Various sizes and colours in stock!



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Other Awesome News!!

COJO has a new **EMPLOYEE of the MONTH!!** Congratulations **Mike Lavallee!**
Woo Hoo!!



Welcome home to **Dive Master Matt Towns!!** Matt just finished his **Arctic Operator Advisor's** course and froze for about 3 months!! We don't know why yet but **AWESOME JOB Matt!!**

We would love for you to follow us on **Facebook**. Become a **friend** of **COJO Diving** at <http://www.facebook.com/COJODiving>

COJO Has a new YouTube Channel where you can view some of our dives as well as training videos. It is constantly being updated so don't miss out!!

[Click for COJO YouTube Channel](#)

Thanks and we are looking forward to diving with you soon!!

Connie and Joe!!