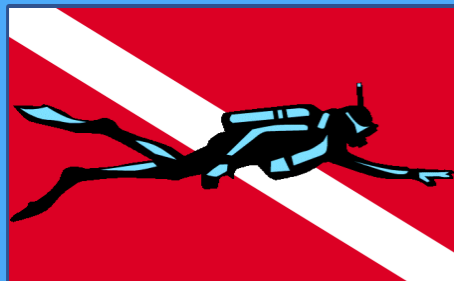


Nitrogen !!!!!!!





What is it ????

Inert Gas

Non-metallic Element

Discovered 1772

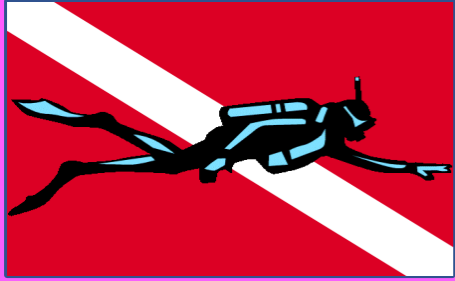
Colorless

Atomic #7

Odorless

Tastless

Most Plentiful Element in  
Earth's Atmosphere



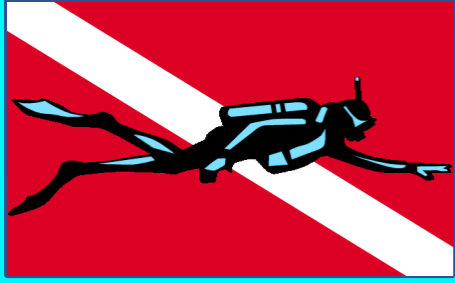
So What...Why Do We Care???

Because the air we breath is 78-79% Nitrogen !!!!

But if its Inert.....why do we care ?????

At the surface we don't really care much

But under pressure as we dive it can become a real problem !!!



# What Happens Under Pressure ???

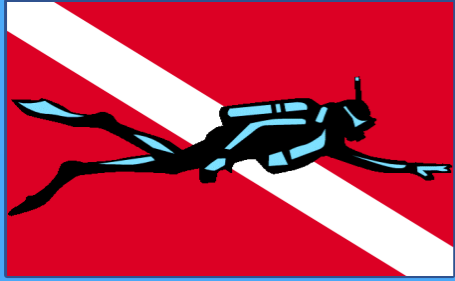
Air is compressed by water pressure

Forces Nitrogen molecules closer...so takes up less space

Leaves space for more Nitrogen

Different tissues store Nitrogen differently

Different bodies react differently

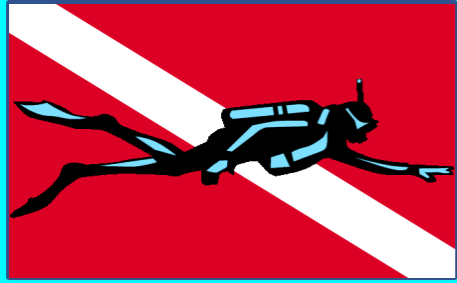


# How Does Nitrogen Get Out ???

As you ascend, bubbles grow

Forced out of tissues back into blood

Blood to lungs and out in breath

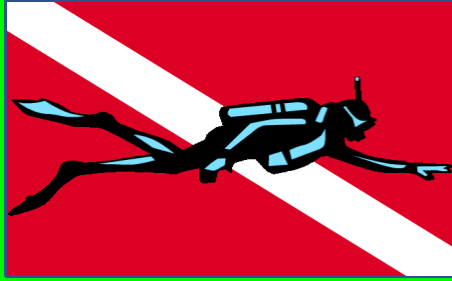


# So What's The Problem ????

If we stay too long...  
or go too deep..... or come up too fast.....

Nitrogen bubbles get trapped in tissue...  
go into joints....or get trapped under skin....or get trapped in lungs

Decompression Illness: Decompression sickness or air embolism



Consider a sponge with two layers

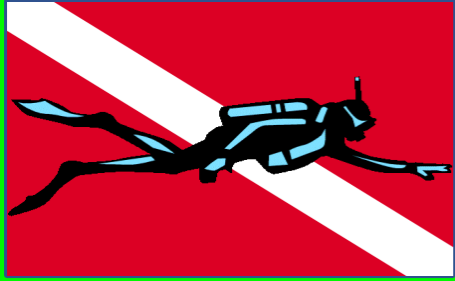
In humidity it becomes damp...but still useable

In water two layers absorb at different rates

Take out slowly or it drips

After water two layers dry at different rates

Scuba causes wet or saturated sponge



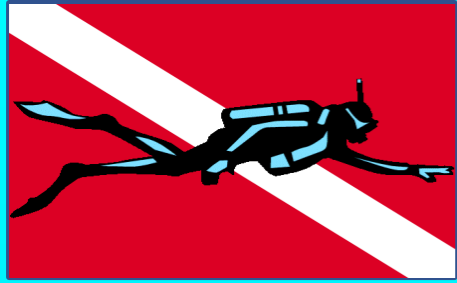
Tissues absorb Nitrogen like a sponge

Need to come out of water slowly

Remember....you'll still be “damp” (residual)

Exercise or altitude after diving is like wringing out the sponge





# Factors & Mitigation

Factors: Age, weight, injuries, history, dehydration

Mitigation...

Nitrox

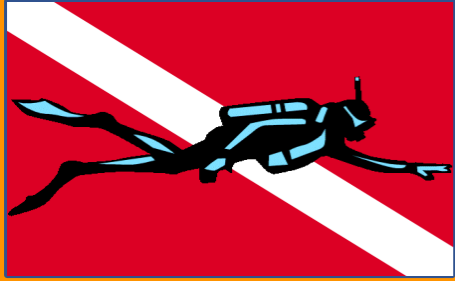


No altitude (fly or drive)

Dive conservatively

Stay hydrated

Stay in shape



# Nitrogen & Narcosis

Not Nitrogen Narcosis !!!!!

Less Nitrogen yet same rate of narcosis