SPC 641

Specialty

“We believe in the impossible and achieve the unimaginable.”

Accredited by the Alliance of Marine Mammal Parks & Aquariums

Association of Zoos & Aquariums

PADI Whale Shark Specialty - Overview

Course Overview

The purpose of the PADI Whale Shark Distinctive Specialty Certification at Georgia Aquarium is to familiarize student divers with physical characteristics, habitat, and conservation efforts for whale sharks, the world's largest fish, as well as learning the skills, procedures, techniques and excitement of diving within the environment of Georgia Aquarium. This course promotes whale shark conservation by allowing the student diver to closely observe these gentle giants, thereby establishing a stronger emotional connection with them. This connection and the conservation messages presented in the class will inspire the student diver to more actively support and promote whale shark conservation.

This course is intended as a safe, supervised, diving experience with emphasis on safety, excitement, education and conservation. Georgia Aquarium is the only facility in North America to offer this unique and distinctive specialty, guaranteeing that the student diver has an opportunity to dive with whale sharks and closely observe them first-hand.

Course Objectives

Upon completing the PADI/Georgia Aquarium Whale Shark Distinctive Specialty course the student diver will be able to:

- Demonstrate GA-WS diving skills and procedures, including recognizing and avoiding potential hazards, while making diving among whale sharks safe and fun,
- Demonstrate proper diving techniques with an emphasis on buoyancy control needed for diving within the environment of Georgia Aquarium while among the whale sharks.
- List the physical characteristics and names of the Aquarium's four whale sharks,
- Describe the conservation efforts and values of the GA-WS program as embodied in the whale shark conservation program at Georgia Aquarium.

PADI Whale Shark Specialty - Overview

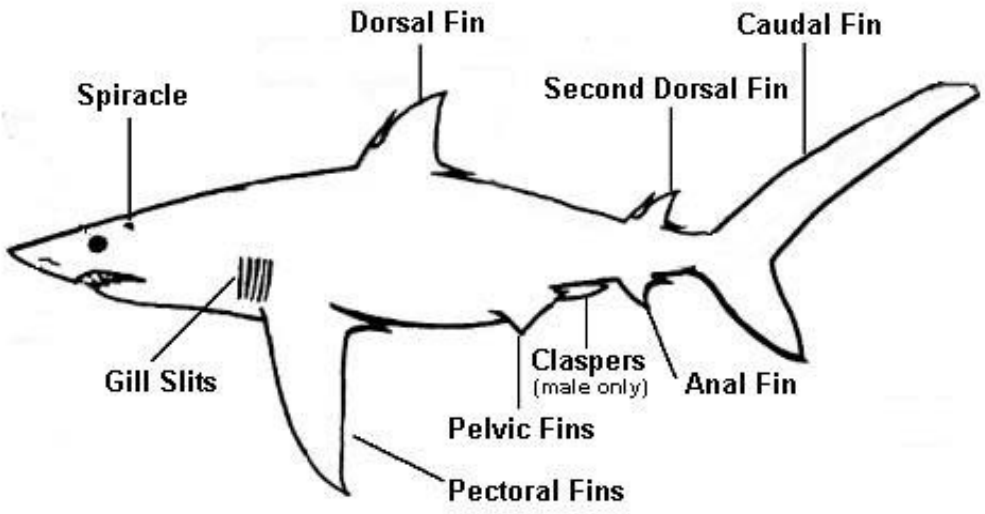
Whale Shark Overview

The Georgia Aquarium whale sharks came from the coastal seas of Taiwan. Working with the Taiwanese government and local fisherman, Georgia Aquarium obtained the required permits and created the safest and most secure method for the acquisition and transport of the animals from Taiwan to Atlanta, GA.

Our gratitude and appreciation goes to the Taiwanese government for their dedication to whale shark conservation through the administration of a sustainable fisheries program, which recently banned fishing for these gentle giants in Taiwanese waters. Georgia Aquarium also is grateful for being allowed to bring whale sharks to this part of the world to help educate a wider public. Georgia Aquarium is now developing baseline data and conducting research to ensure the survival of this extraordinary animal worldwide.

Georgia Aquarium continues to educate the public about the whale shark and the need for establishing conservation measures.

Anatomy of a Shark



PADI Whale Shark Specialty –The Sharks

Georgia Aquarium's Whale Sharks

Our whale sharks were all acquired from the coastal seas near Taiwan with the cooperation of the Taiwan government as part of their commitment to conservation and education related to these beautiful animals. Taiwan has taken steps towards the long-term management of the worldwide whale shark populations by reducing their whale shark fishing quota from 60 in 2006 to 30 in 2007, and as of 2008, prohibiting any harvesting of these fish for consumption. Georgia Aquarium and Taiwan hope these positive actions will encourage other countries to adopt similar sustainable fisheries practices.

Our whale sharks arrived in Atlanta from Taiwan nearly one year apart: Alice and Trixie in June 2006 and Yushan and Taroko in June 2007. Our newest additions were given Taiwanese names to honor their origin. *Yushan* (which means "jade mountain") is the name of the tallest mountain peak in Asia outside of the Himalayas. *Taroko* is the name of a Taiwanese national park.

All were flown 8,000 miles directly to Atlanta from Taipei, Taiwan on a specially configured United Parcel Service 747 freighter, with a stop-over in Anchorage for refueling. The whale sharks were transported in specially designed containers with highly advanced life-support systems that maintained a suitable environment for the animals during their journey. Georgia Aquarium veterinary and animal care staff provided supervision and care for the whale sharks during the flights. No problems were encountered during any of the trips and all animals arrived in fine condition.

Georgia Aquarium is the first facility outside of Asia to house and exhibit whale sharks. The 6.3 million gallon Ocean Voyager habitat was designed specifically to accommodate six full-size whale sharks, based on the many years of experience of other aquariums in Japan, Taiwan and elsewhere. We expect all of our animals to have a long life here in Atlanta. As all our whale sharks are not yet mature, we cannot expect any reproduction for many years.

Whale Shark Photo IDs

ECOCEAN is a group that has establish a database of photos to identify individual whale sharks. Photos of the animal's left flank showing the spots near the gills are submitted by divers world-wide and scanned by computer. A modified NASA program is used to compare the patterns of spots to document the movement of individual sharks.

PADI Whale Shark Specialty - The Sharks

Our Whale Sharks

- Two pre-adult females: **Alice** and **Trixie.**
- Trixie has a pure white belly. Alice has spots on her belly.
- Two juvenile males: **Yushan** and **Taroko**.
- Yushan has a u-shaped notch on the trailing edge of his dorsal fin and Taroko does not.
- All were acquired off the coast of Taiwan.
- The females are each about 23-26 feet (7-8 m) long; the males 20-23 feet (6-7m)
- They each eat approximately 83 lbs (38 kg) total of food per day.
- Each are target-fed krill and small fish from the gantry or small boats using ladles on poles.

Ocean Voyager Exhibit

At -a- Glance

There are thousands of fish in the habitat.

Habitat is 284 feet (86.5 m) long by 126 feet (38.4 m) wide by 30 feet (9 m) deep.

The water is maintained at about 77°F (25 C)

Salinity is 32 - 33 parts per thousand (ppt)

Main window is 63 feet long, 26 feet high and 2 feet thick (19x7.9x .6 m).

Main window is made of acrylic, a plastic up to 17 times stronger than glass.

Tunnel acrylic is 6.25 inches (15.8 cm) thick and its arched structure better withstands water pressure.

Filtration system can process all 6.3 million gallons in about 60 minutes.

The system contains 70 pumps, 72 sand filters, 34 protein skimmers.

PADI Whale Shark Specialty - The Sharks

Timeline for Moving Whale Sharks to Atlanta

- Fisherman acquire the whale sharks off the East Coast of Taiwan.
- Fishermen place the sharks in a sea pen near Hualien, Taiwan
- Georgia Aquarium staff train the whale sharks to feed horizontally using a small boat and a ladle-on-a-pole method.
- Aquarium staff and fisherman move the whale sharks from the sea pen into temporary transport containers mounted on fishing boats.
- The boats move the whale sharks to Hualien harbor. Aquarium staff give each whale shark a pre-transport physical exam and they are transferred to the long-distance transport containers.
- Whale sharks in their transport containers are moved to Hualien airport and onto a transport plane for flight to Taipei. The runway at Hualien airport cannot accommodate the 747 aircraft needed to fly the whale sharks to Atlanta.
- Transport containers with whale sharks are transferred to a specially equipped 747, provided by UPS, for the flight to Atlanta.
- Aquarium staff monitors the health animals during the flight, which lasts 22 hours, with a stop -over in Alaska to refuel.
- Upon arrival at Hartsfield-Jackson International Airport, the transport containers are off-loaded onto tractor trailers and moved to the Aquarium.
- Containers are moved under the Ocean Voyager hatchway and the water in the containers is exchanged with Ocean Voyager water.
- The whale sharks are hoisted up to the deck of the Ocean Voyager and Aquarium staff perform another physical exam on each one.
- The whale sharks are released into the habitat.
- Total time since their removal from the sea pens: about 36 hours.

PADI Whale Shark Specialty - FAQ'S

Where are whale sharks found?

Whale sharks occur in tropical and warm temperate seas around the world, with the exception of the Mediterranean. They usually are observed in surface waters with temperatures between about 70°F and 86°F (21-30 C) and are found both inshore and offshore. Individuals often enter lagoons of coral atolls. In 1997, one was sighted in the Bay of Fundy in Eastern Canada, well north of its usual range.

Are whale sharks migratory?

Whale sharks are believed to migrate between feeding grounds. Preliminary results from various tagging studies and other observations appear to indicate that this species migrates in response to seasonal concentrations of food. Whale sharks return regularly to certain locations to feed on blooms of zooplankton (i.e., concentrations of eggs and larvae from the synchronous spawning of fish, crabs or coral) that occur for a few months each year.

How do whale sharks reproduce?

Whale sharks are ovoviviparous. Fertilization is internal, the embryos develops within the female's two uteri and the young are born fully formed. Females may carry as many as 300 pups at one time. Size at birth is about 21.7 to 25.2 inches (55-64 cm). Questions regarding size or age of sexual maturity, where and when mating occurs, gestation period, location of birthing and other details remain to be answered.

What is the conservation status of whale sharks?

Whale Sharks are classified as "Vulnerable" on the IUCN Red List. However, populations in the Pacific generally are believed to be declining based on fishery statistics and general observations of occurrences. The species is listed in Appendix II of CITES.

PADI Whale Shark Specialty - FAQ'S

Why are whale sharks considered at risk?

Overfishing has reduced worldwide whale shark populations significantly over the past 25 years or so. Sightings in most locations have become less frequent and the numbers seen are much diminished. Fishery data on whale shark landings are incomplete, but do indicate population declines. In Taiwan, annual catch declined from about 270 animals in the mid-1990s to less than 100 in 2001. A decrease in average size indicates the population is being overfished. In India, the annual catch of whale sharks declined from 279 individuals in 1999 to 160 in 2000. [India banned whale shark fishing in 2001].

Whale sharks are particularly vulnerable to overfishing because they are long-lived animals that are believed to not reach sexual maturity until reaching lengths of about 26 feet (8m).

Therefore, it takes many years to replace adults that are harvested. In addition, whale sharks are relatively easy to catch because they swim slowly near the surface and are unafraid of man, which makes them subject to harpooning or capture in floating nets. Also, the fact that they regularly appear in known locations allows fishermen to easily find them.

Why are whale sharks being overfished?

There are two causes for the increased fishing pressure on whale sharks. First, in many locations in Asia, whale shark has become a very popular dish. It is known as the "tofu shark" because of the flavor and texture. The increased demand has forced prices up, increasing the incentive for fishermen to harvest the animal. The second factor influencing overfishing of whale sharks is the huge increase in the demand for shark fins of all types. The size and quality of whale shark fins make them particularly valuable. Consequently, fishermen seek out whale sharks even if they cannot market their meat.

Carcass of Whale shark being processed

PADI Whale Shark Specialty - FAQ'S

Georgia Aquarium Whale Shark Program

One of the core values of Georgia Aquarium is the promotion of aquatic conservation. The Aquarium is advancing scientific understanding of whale sharks by combining field research with in-house study through our 4R Program.

Georgia Aquarium's in-house studies on whale sharks involve our own veterinary staff and specialists from the University of Georgia College of Veterinary Medicine and Georgia State University. Research is focused on anatomy (e.g., food filtration system), nutritional requirements, physiology, general behavior and growth. We are also developing diagnostic tests. As very little is known about these wonderful animals, our work is very important in providing baseline information to support conservation efforts of the species worldwide.

The Georgia Aquarium's Objective: To develop sufficient information to establish conservation measures to ensure the protection and survival of the species.

Research the Aquarium is undertaking:

- Blood chemistry and histology
- Hormone levels to monitor sexual maturity
- Feeding mechanics in the mouth and throat
- Digestive tract—morphology and function
- DNA sampling and analysis—zoogeographic baseline information
- Growth and nutrition studies
- Migration and tagging studies in Mexico
- Behavior studies in Ocean Voyager

Results to date have shown:

- Sharks spotted off the coast of Mexico migrate into the Gulf of Mexico, the Florida Straits, the Caribbean and out to the mid-Atlantic.
- Individuals can dive to 5,200 feet (1,585 m) in the Gulf of Mexico for about an hour where water temperatures are about 39°F (3.9 C).
- Whale sharks can consume 3 to 5 lbs of plankton per hour.
- DNA studies currently show that the Atlantic and Pacific populations of whale sharks are the same population, but research is ongoing.
- Whale shark brains are surprisingly small: about the size of a grapefruit.

Future whale shark studies:

- Whale shark sensory biology

PADI Whale Shark Specialty - Conservation

Is there any good conservation news on whale sharks?

Yes. At least seven countries have **banned fishing** for whale sharks in their waters: Maldives (1995), Philippines (1998), Honduras (1999), Thailand (2000), Mexico (2000), India (2001). And Taiwan (2008). In addition, whale sharks are protected by regulations in Australia, the U.S. and several other countries. India and the Philippines sponsored the successful effort to get whale sharks listed on the CITES Appendix II in 2005.

Another positive trend is that **ecotourism** based on whale sharks is established in a number of countries including: Australia (Ningaloo Reef), Belize (Gladden Reef), Costa Rica (Coco Island), Ecuador (Galapagos), Honduras, Kenya (Diani Beach), Maldives, Mexico (Holbox Island, Sea of Cortez), Mozambique, Philippines (Donsol), Seychelles, South Africa (Kwazulu Natal) and Thailand (Phuket).

Responsible ecotourism will provide strong economic incentives for local populations to protect whale sharks and their habitats. Equally important, whale sharks were added to **Appendix II of CITES** in 2005, which means that the species now receives some protection in international trade as an endangered species.

Whale Shark Conservation at the Georgia Aquarium

Georgia Aquarium is committed to advancing the scientific community's understanding of whale sharks and to increasing public awareness of this species in order to promote its conservation. These goals are greatly enhanced by having whale sharks on display at the Aquarium. Georgia Aquarium 's commitment focuses on the education, research, conservation and the future of whale sharks.

Education - By having whale sharks in the Aquarium, we raise public awareness of the species and encourage our guests to be a part of this extraordinary adventure.

- Over 10 million people have been introduced to whale sharks and have come face to face with them.
- Over 125,000 students have had the opportunity to learn about whale sharks and see them up close, rather than just in text books or on video.

PADI Whale Shark Specialty - Conservation continued

Education continued:

- Many people around the world are learning about whale sharks for the first time because of our international reach with the media.
- The Seafood Savvy program allows guests to make informed decisions about their seafood purchasing and eating habits.
- Our teaching hospital, Georgia Aquarium Correll Center for Aquatic Animal Health, is becoming a leader in advancing the understanding and care of aquatic animals.

Groundbreaking Research - By studying whale sharks, we establish a baseline understanding of these animals that facilitates the management of native populations.

- Georgia Aquarium was the first to perform routine physical exams on whale sharks. (Blood sampling allowed us to establish important baseline information on the species)
- In cooperation with other facilities, we are able to understand the complex and unique food filtration system in whale sharks .
- Our veterinary and animal care teams traveled to Asia to consult with colleagues working with whale sharks there and to share information with them.
- Aquarium scientists participant in field research off the coast of Mexico. There, we are learning about the behavior, feeding patterns and nutritional requirements of whale sharks in the wild.
- The Aquarium is working with other facilities and researchers in Mexico, Taiwan and Mote Marine Laboratory in Florida to track whale sharks.
- Working with field researchers, the Aquarium is able to develop an understanding of whale shark population and the potential effects of ecotourism on native populations.
- Georgia State University researchers have developed a behavior monitoring program for our whale sharks to help understand their activity patterns.

Conservation and the Future - In the long term, our whale shark program can help us to better understand the species and work toward its long term survival in the oceans.

- Marine animal and breeding behaviors are mostly understood through work in zoological facilities. This will increase the understanding of whale shark biology over the years.
- Funding and support of research at Georgia Aquarium and its field research programs continue to build on an already extensive program that provides essential data for conservation planning.

PADI Whale Shark Specialty - Threats

Shark Conservation

Threats

Although sharks are highly evolved and successful predators that dominate the ocean food chain, their biological characteristics make them particularly vulnerable to the devastating impact of human activities. Most species are slow-growing, mature relatively late and have a very low reproduction rate. As a result, their populations cannot support unsustainable practices such as overfishing, finning, and incidental by catch. Declines of 70-80% of some species have been reported globally.

By catch

Shark by catch—the incidental capture of non-targeted species—is frequently reported in pelagic long line fisheries targeting tuna and swordfish and can represent as much as 25% of the total catch. Sharks may be attracted to the easy prey that is caught on long lines and become hooked themselves, where they can remain for hours before being pulled in. It is estimated that 50 million sharks are caught as by catch each year.

Studies have shown that replacing wire leaders, which secure a catch to the line, with monofilament nylon leaders is a much better gear option for both reducing by catch and increasing the targeted catch. Sharks caught on nylon lines are able to bite through the line and escape, resulting in less chance of death, injury or stress. A ban on wire leaders, proposed by the PEW Environment Group, has already been adopted by several countries.

Finning

In most commercial fisheries, shark meat is considered of low value and sharks taken as by catch are often discarded at sea rather than landed at port. Their fins, however, are among the most expensive seafood products in the world – and are therefore highly sought. The act of finning is when sharks are caught, either intentionally or as by catch, and are brought aboard to have one or all of their fins sliced off. The body is then discarded at sea; because the flesh isn't valued, fishermen can save more room on their boats for valuable fish by keeping only the fins. Many sharks are still alive when they are finned, and are dumped back into the water to drown or be consumed by other species. .

PADI Whale Shark Specialty - Threats to Sharks

Finning continued:

Because the fins are rarely landed attached to a body, it is extremely difficult to record just how many sharks are killed in this way. A comprehensive study estimated the number of sharks killed for their fins in 2000 was 26 to 73 million. Widely regarded as a cruel and wasteful practice, finning has been banned in the US since 2000 and in many other countries around the world.

Sharks are being overfished worldwide

It is estimated that between 70 and 100 million sharks are harvested each year from the ocean. The low rates of reproduction in most shark species are unable to offset these losses, so populations are rapidly being depleted. Only three shark species (whale shark, basking shark and the great white shark) have protection under international agreements.

Regulations on shark fishing in the U.S.

Commercial fishing regulations set restrictions regarding what shark species can be caught, seasonal weight quotas, trip limit weight quotas and seasons for shark fishing in U. S. waters. *Recreational fishing* in the U.S. is limited by the numbers of sharks caught. Large coastal sharks are required to be over 4.5 feet (1.37 m) and only one shark per boat can be taken per day. Small coastal sharks do not have to reach a certain size but are restricted by number (one per person per boat per day).

Threats to whale sharks

Whale sharks are subject to finning in spite of their status as a protected species in most countries. They are still subject to capture in the open sea and being taken by illegal fishing in coastal waters. Their large fins have high value in the trade. Therefore, finning is a significant threat to whale sharks in most of the world.

Shark finning is banned on U.S. fishing boats in U.S. territorial waters and on boats landing catches in U.S. territories.

PADI Whale Shark Specialty - Threats to Sharks

The shark fin trade

The driving force behind the demand for shark fins is shark fin soup, a tasteless delicacy that has long been a significant status symbol in China. It has been served there since the Ming Dynasty – and back then, only the emperor and his guests ate it. As China's population enjoys more prosperity, shark fin soup has become popular at banquets, weddings, and business dinners. Hong Kong is the hub of the international shark fin trade – approximately 70% of all fins pass through its
markets.

In July 2012, China took a bold step in global shark protection by publicly announcing a planned ban on shark fin soup at official banquets. Though it could take several years to implement, it is certainly a welcomed decision and a step in the right direction. In September 2012 the world's largest carrier of air cargo, Cathay Pacific, banned the shipping of unsustainably sourced shark products on their flights. Several US states are also moving forward with bans on the sale, trade, and possession of shark fins. Hawaii was the first to pass a bill in June 2010. California signed it into law in October 2011. In July 2012, Illinois became the first inland state to enact a ban. Overall, there are currently five states with such a law in place.

Shark Fin Soup

Shark fins are among the world's most expensive fishery products. Almost every species of shark has commercially valuable fins. However, the value depends on such factors as size, color and thickness. Whale shark fins tend to demand a higher price because of their large size.

Fins usually enter inter-national trade intact (dried or frozen) with the skin on or partially prepared by removing the skin, cartilaginous base plate and meat. The fins are processed by soaking and boiling to yield shark fin needles, which occur as a bundle in the center of the fin. The needles are a tasteless, gelatinous product used, with other ingredients, to prepare shark fin soup. This dish is particularly popular in Asian markets.

PADI Continuing Education Administrative Document

LIABILITY RELEASE AND ASSUMPTION OF RISK AGREEMENT

Please read carefully and fill in all blanks before signing.

I, _____ , hereby affirm that I am aware that skin and scuba diving have inherent risks which may result in serious injury or death. I understand that diving with compressed air involves certain inherent risks; including but not limited to decompression sickness, embolism or other hyperbaric/air expansion injury that require treatment in a recompression chamber. I further understand that the open water diving trips which are necessary for training and for certification may be conducted at a site that is remote, either by time or distance or both, from such a recompression chamber. I still choose to proceed with such dives in spite of the possible absence of a recompression chamber in proximity to the dive site.

I understand this Liability Release and Assumption of Risk Agreement (Agreement) hereby encompasses and applies to all diver training activities and courses in which I choose to participate. These activities and courses may include, but are not limited to, altitude, boat, cavern, AWARE, deep, enriched air, photography/videography, diver propulsion vehicle, drift, dry suit, ice, multilevel, night, peak performance buoyancy, search & recovery, rebreather, underwater naturalist, navigator, wreck, adventure diver, rescue diver and other distinctive specialties (hereinafter "Programs").

I understand and agree that neither my instructor(s), divemasters(s),the facility which provides the Programs _____, nor PADI Americas, Inc., nor its affiliate and subsidiary corporations, nor any of their respective employees, officers, agents, contractors or assigns (hereinafter referred to as "Released Parties") may be held liable or responsible in any way for any injury, death or other damages to me, my family, estate, heirs or assigns that may occur as a result of my participation in the Programs or as a result of the negligence of any party, including the Released Parties, whether passive or active.

In consideration of being allowed to participate in the Programs, I hereby personally assume all risks of the Programs, whether foreseen or unforeseen, that may befall me while I am a participant in the Programs including, but not limited to, the academics, confined water and/or open water activities. I further release, exempt and hold harmless said Programs and Released Parties from any claim or lawsuit by me, my family, estate, heirs or assigns, arising out of my enrollment and participation in this program including both claims arising during the program or after I receive my certification(s).

I understand that past or present medical conditions may be contraindicative to my participation in the Programs. I declare that I am in good mental and physical fitness for diving, and that I am not under the influence of alcohol, nor am I under the influence of any drugs that are contraindicated to diving. If I am taking medication, I declare that I have seen a physician and have approval to dive while under the influence of the medication/drugs. I affirm it is my responsibility to inform my instructor of any and all changes to my medical history at any time during my participation in the Programs and agree to accept responsibility for my failure to do so. I also understand that skin diving and scuba diving are physically strenuous activities and that I will be exerting myself during this program, and that if I am injured as a result of heart attack, panic, hyperventilation, drowning or any other cause, that I expressly assume the risk of said injuries and that I will not hold the Released Parties responsible for the same.

I further state that I am of lawful age and legally competent to sign this Liability Release and Assumption of Risk Agreement, or that I have acquired the written consent of my parent or guardian. I understand the terms herein are contractual and not a mere recital, and that I have signed this Agreement of my own free act and with the knowledge that I hereby agree to waive my legal rights. I further agree that if any provision of this Agreement is found to be unenforceable or invalid, that provision shall be severed from this Agreement. The remainder of this Agreement will then be construed as though the unenforceable provision had never been contained herein.

I hereby state and agree this Agreement will be effective for all activities associated with the Programs in which I participate within one year from the date on which I sign this Agreement.

I understand and agree that I am not only giving up my right to sue the Released Parties but also any rights my heirs, assigns, or beneficiaries may have to sue the Released Parties resulting from my death. I further represent I have the authority to do so and that my heirs, assigns, or beneficiaries will be estopped from claiming otherwise because of my representations to the Released Parties.

I, _____ BY THIS INSTRUMENT AGREE TO EXEMPT AND RELEASE MY INSTRUCTORS, DIVEMASTERS, THE FACILITY WHICH OFFERS THE PROGRAMS AND PADI AMERICAS, INC., AND ALL RELATED ENTITIES AND RELEASED PARTIES AS DEFINED ABOVE, FROM ALL LIABILITY OR RESPONSIBILITY WHATSOEVER FOR PERSONAL INJURY, PROPERTY DAMAGE OR WRONGFUL DEATH HOWEVER CAUSED, INCLUDING, BUT NOT LIMITED TO, THE NEGLIGENCE OF THE RELEASED PARTIES, WHETHER PASSIVE OR ACTIVE.

I HAVE FULLY INFORMED MYSELF OF THE CONTENTS OF THIS LIABILITY RELEASE AND ASSUMPTION OF RISK AGREEMENT BY READING IT BEFORE I SIGNED IT ON BEHALF OF MYSELF AND MY HEIRS.

_____ _____

Participant's Signature | Date (Day/Month/Year)

_____ _____

Signature of Parent or Guardian (where applicable) | Date (Day/Month/Year)

MEDICAL STATEMENT – Participant Record, (Confidential Information)

R·S·T·C Recreational Scuba Training Council

Undersea & Hyperbaric Medical Society

Please read carefully before signing.

This is a statement in which you are informed of some potential risks involved in scuba diving and of the conduct required of you during the scuba training program. Your signature on this statement is required for you to participate in the scuba training program.

Read this statement prior to signing it. You must complete this Medical Statement, which includes the medical questionnaire section, to enroll in the scuba training program. In addition, if your medical condition changes at any time during your scuba programs it is important that you inform your instructor immediately. If you are a minor, you must have this Statement signed by a parent or guardian.

Diving is an exciting and demanding activity. When performed correctly, applying correct techniques, it is relatively safe. When established safety procedures are not followed, however, there are increased risks.

To scuba dive safely, you should not be extremely overweight or out of condition. Diving can be strenuous under certain conditions. Your respiratory and circulatory systems must be in good health. All body air spaces must be normal and healthy. A person with coronary disease, a current cold or congestion, epilepsy, a severe medical problem or who is under the influence of alcohol or drugs should not dive. If you have asthma, heart disease, other chronic medical conditions or you are taking medications on a regular basis, you should consult your doctor and the instructor before participating in this program, and on a regular basis thereafter upon completion. You will also learn from the instructor the important safety rules regarding breathing and equalization while scuba diving. Improper use of scuba equipment can result in serious injury. You must be thoroughly instructed in its use under direct supervision of a qualified instructor to use it safely.

If you have any additional questions regarding this Medical Statement or the Medical Questionnaire section, review them with your instructor before signing.

(see reverse)

Divers Medical Questionnaire

To the Participant:

The purpose of this Medical Questionnaire is to find out if you should be examined by your doctor before participating in recreational diver training. A positive response to a question does not necessarily disqualify you from diving. A positive response means that there is a preexisting condition that may affect your safety while diving and you must seek the advice of your physician prior to engaging in dive activities.

Please answer the following questions on your past or present medical history with a YES or NO. If you are not sure, answer YES. If any of these items apply to you, we must request that you consult with a physician prior to participating in scuba diving. Your instructor will supply you with an RSTC Medical Statement and Guidelines for Recreational Scuba Diver's Physical Examination to take to your physician.

_____ Could you be pregnant, or are you attempting to become pregnant?

_____ Are you presently taking prescription medications? (with the exception of birth control or anti-malarial)

_____ Are you over 45 years of age and can answer YES to one or more of the following?

- currently smoke a pipe, cigars or cigarettes
- have a high cholesterol level
- have a family history of heart attack or stroke
- are currently receiving medical care
- high blood pressure
- diabetes mellitus, even if controlled by diet alone

Have you ever had or do you currently have...

_____ Asthma, or wheezing with breathing, or wheezing with exercise?

_____ Frequent or severe attacks of hayfever or allergy?

_____ Frequent colds, sinusitis or bronchitis?

_____ Any form of lung disease?

_____ Pneumothorax (collapsed lung)?

_____ Other chest disease or chest surgery?

_____ Behavioral health, mental or psychological problems (Panic attack, fear of closed or open spaces)?

_____ Epilepsy, seizures, convulsions or take medications to prevent them?

_____ Recurring complicated migraine headaches or take medications to prevent them?

_____ Blackouts or fainting (full/partial loss of consciousness)?

_____ Frequent or severe suffering from motion sickness (seasick, carsick, etc.)?

_____ Dysentery or dehydration requiring medical intervention?

_____ Any dive accidents or decompression sickness?

_____ Inability to perform moderate exercise (example: walk 1.6 km/one mile within 12 mins.)?

_____ Head injury with loss of consciousness in the past five years?

_____ Recurrent back problems?

_____ Back or spinal surgery?

_____ Diabetes?

_____ Back, arm or leg problems following surgery, injury or fracture?

_____ High blood pressure or take medicine to control blood pressure?

_____ Heart disease?

_____ Heart attack?

_____ Angina, heart surgery or blood vessel surgery?

_____ Sinus surgery?

_____ Ear disease or surgery, hearing loss or problems with balance?

_____ Recurrent ear problems?

_____ Bleeding or other blood disorders?

_____ Hernia?

_____ Ulcers or ulcer surgery ?

_____ A colostomy or ileostomy?

_____ Recreational drug use or treatment for, or alcoholism in the past five years?

The information I have provided about my medical history is accurate to the best of my knowledge. I affirm it is my responsibility to inform my instructor of any and all changes to my medical history at any time during my participation in scuba programs. I agree to accept responsibility for omissions regarding my failure to disclose any existing or past health condition, or any changes thereto.

_____ Signature _____ Date

_____ Signature of Parent or Guardian (where applicable) _____ Date

Standard Safe Diving Practices Statement of Understanding

Please read carefully before signing.

This is a statement in which you are informed of the established safe diving practices for skin and scuba diving. These practices have been compiled for your review and acknowledgement and are intended to increase your comfort and safety in diving. Your signature on this statement is required as proof that you are aware of these safe diving practices. Read and discuss the statement prior to signing it. If you are a minor, this form must also be signed by a parent or guardian.

I,_____ Print Name _____, understand that as a diver I should:

1. Maintain good mental and physical fitness for diving. Avoid being under the influence of alcohol or dangerous drugs when diving. Keep proficient in diving skills, striving to increase them through continuing education and reviewing them in controlled conditions after a period of diving inactivity, and refer to my course materials to stay current and refresh myself on important information.
2. Be familiar with my dive sites. If not, obtain a formal diving orientation from a knowledgeable, local source. If diving conditions are worse than those in which I am experienced, postpone diving or select an alternate site with better conditions. Engage only in diving activities consistent with my training and experience. Do not engage in cave or technical diving unless specifically trained to do so.
3. Use complete, well-maintained, reliable equipment with which I am familiar; and inspect it for correct fit and function prior to each dive. Have a buoyancy control device, low-pressure buoyancy control inflation system, submersible pressure gauge and alternate air source and dive planning/monitoring device (dive computer, RDP/dive tables—whichever you are trained to use) when scuba diving. Deny use of my equipment to uncertified divers.
4. Listen carefully to dive briefings and directions and respect the advice of those supervising my diving activities. Recognize that additional training is recommended for participation in specialty diving activities, in other geographic areas and after periods of inactivity that exceed six months.
5. Adhere to the buddy system throughout every dive. Plan dives – including communications, procedures for reuniting in case of separation and emergency procedures – with my buddy.
6. Be proficient in dive planning (dive computer or dive table use). Make all dives no decompression dives and allow a margin of safety. Have a means to monitor depth and time underwater. Limit maximum depth to my level of training and experience. Ascend at a rate of not more than 18 metres/60 feet per minute. Be a SAFE diver – Slowly Ascend From Every dive. Make a safety stop as an added precaution, usually at 5 metres/15 feet for three minutes or longer.
7. Maintain proper buoyancy. Adjust weighting at the surface for neutral buoyancy with no air in my buoyancy control device. Maintain neutral buoyancy while underwater. Be buoyant for surface swimming and resting. Have weights clear for easy removal, and establish buoyancy when in distress while diving. Carry at least one surface signaling device (such as signal tube, whistle, mirror).
8. Breathe properly for diving. Never breath-hold or skip-breathe when breathing compressed air, and avoid excessive hyperventilation when breath-hold diving. Avoid overexertion while in and underwater and dive within my limitations.
9. Use a boat, float or other surface support station, whenever feasible.
10. Know and obey local dive laws and regulations, including fish and game and dive flag laws.I have read the above statements and have had any questions answered to my satisfaction. I understand the importance and purposes of these established practices. I recognize they are for my own safety and well-being, and that failure to adhere to them can place me in jeopardy when diving.

_____ Participant's Signature _____ Date (Day/Month/Year)

_____ Signature of Parent or Guardian (where applicable) _____ Date (Day/Month/Year)

Product no. 10038 (Rev 9/09) Ver. 1.0

MEDICAL STATEMENT

Participant Record (Confidential Information)

Please read carefully before signing.

This is a statement in which you are informed of some potential risks involved in scuba diving and of the conduct required of you during the scuba training program. Your signature on this statement is required for you to participate in the scuba training program offered

by_____and
Instructor

_____located in the
Facility

city of_____, state/province of _____.

Read this statement prior to signing it. You must complete this Medical Statement, which includes the medical questionnaire section, to enroll in the scuba training program. If you are a minor, you must have this Statement signed by a parent or guardian.

Diving is an exciting and demanding activity. When performed correctly, applying correct techniques, it is relatively safe. When established safety procedures are not followed, however, there are increased risks.

To scuba dive safely, you should not be extremely overweight or out of condition. Diving can be strenuous under certain conditions. Your respiratory and circulatory systems must be in good health. All body air spaces must be normal and healthy. A person with coronary disease, a current cold or congestion, epilepsy, a severe medical problem or who is under the influence of alcohol or drugs should not dive. If you have asthma, heart disease, other chronic medical conditions or you are taking medications on a regular basis, you should consult your doctor and the instructor before participating in this program, and on a regular basis thereafter upon completion. You will also learn from the instructor the important safety rules regarding breathing and equalization while scuba diving. Improper use of scuba equipment can result in serious injury. You must be thoroughly instructed in its use under direct supervision of a qualified instructor to use it safely.

If you have any additional questions regarding this Medical Statement or the Medical Questionnaire section, review them with your instructor before signing.

Divers Medical Questionnaire

To the Participant:

The purpose of this Medical Questionnaire is to find out if you should be examined by your doctor before participating in recreational diver training. A positive response to a question does not necessarily disqualify you from diving. A positive response means that there is a preexisting condition that may affect your safety while diving and you must seek the advice of your physician prior to engaging in dive activities.

Please answer the following questions on your past or present medical history with a **YES** or **NO**. If you are not sure, answer **YES**. If any of these items apply to you, we must request that you consult with a physician prior to participating in scuba diving. Your instructor will supply you with an RSTC Medical Statement and Guidelines for Recreational Scuba Diver's Physical Examination to take to your physician.

_____ Could you be pregnant, or are you attempting to become pregnant?

_____ Are you presently taking prescription medications? (with the exception of birth control or anti-malarial)

_____ Are you over 45 years of age and can answer YES to one or more of the following?
- currently smoke a pipe, cigars or cigarettes
- have a high cholesterol level
- have a family history of heart attack or stroke
- are currently receiving medical care
- high blood pressure
- diabetes mellitus, even if controlled by diet alone

Have you ever had or do you currently have...

_____ Asthma, or wheezing with breathing, or wheezing with exercise?

_____ Frequent or severe attacks of hayfever or allergy?

_____ Frequent colds, sinusitis or bronchitis?

_____ Any form of lung disease?

_____ Pneumothorax (collapsed lung)?

_____ Other chest disease or chest surgery?

_____ Behavioral health, mental or psychological problems (Panic attack, fear of closed or open spaces)?

_____ Epilepsy, seizures, convulsions or take medications to prevent them?

_____ Recurring complicated migraine headaches or take medications to prevent them?

_____ Blackouts or fainting (full/partial loss of consciousness)?

_____ Frequent or severe suffering from motion sickness (seasick, carsick, etc.)?

_____ Dysentery or dehydration requiring medical intervention?

_____ Any dive accidents or decompression sickness?

_____ Inability to perform moderate exercise (example: walk 1.6 km/one mile within 12 mins.)?

_____ Head injury with loss of consciousness in the past five years?

_____ Recurrent back problems?

_____ Back or spinal surgery?

_____ Diabetes?

_____ Back, arm or leg problems following surgery, injury or fracture?

_____ High blood pressure or take medicine to control blood pressure?

_____ Heart disease?

_____ Heart attack?

_____ Angina, heart surgery or blood vessel surgery?

_____ Sinus surgery?

_____ Ear disease or surgery, hearing loss or problems with balance?

_____ Recurrent ear problems?

_____ Bleeding or other blood disorders?

_____ Hernia?

_____ Ulcers or ulcer surgery ?

_____ A colostomy or ileostomy?

_____ Recreational drug use or treatment for, or alcoholism in the past five years?

The information I have provided about my medical history is accurate to the best of my knowledge. ***I agree to accept responsibility for omissions regarding my failure to disclose any existing or past health condition.***

_____	_____	_____	_____
Signature	Date	Signature of Parent or Guardian	Date

STUDENT

Please print legibly.

Name_____ Birth Date _____ Age _____
First Initial Last Day/Month/Year

Mailing Address _____

City_____ State/Province/Region _____

Country _____ Zip/Postal Code _____

Home Phone ( )_____ Business Phone ( )_____

Email _____ FAX_____

Name and address of your family physician

Physician _____ Clinic/Hospital _____

Address_____

Date of last physical examination _____

Name of examiner_____ Clinic/Hospital_____

Address _____

Phone ( )_____ Email _____

Were you ever required to have a physical for diving? ☐ Yes ☐ No If so, when?_____

PHYSICIAN

This person applying for training or is presently certified to engage in scuba (self-contained underwater breathing apparatus) diving. Your opinion of the applicant's medical fitness for scuba diving is requested. There are guidelines attached for your information and reference.

Physician's Impression

☐ I find no medical conditions that I consider incompatible with diving.

☐ I am unable to recommend this individual for diving.

Remarks _____

_____

_____

_____ Date _____
Physician's Signature or Legal Representative of Medical Practitioner Day/Month/Year

Physician_____ Clinic/Hospital_____

Address_____

Phone ( )_____ Email _____

Guidelines for Recreational Scuba Diver's Physical Examination

Instructions to the Physician:

Recreational **SCUBA** (Self-Contained Underwater Breathing Apparatus) can provide recreational divers with an enjoyable sport safer than many other activities. The risk of diving is increased by certain physical conditions, which the relationship to diving may not be readily obvious. Thus, it is important to screen divers for such conditions.

The **RECREATIONAL SCUBA DIVER'S PHYSICAL EXAMINATION** focuses on conditions that may put a diver at increased risk for decompression sickness, pulmonary overinflation syndrome with subsequent arterial gas embolization and other conditions such as loss of consciousness, which could lead to drowning. Additionally, the diver must be able to withstand some degree of cold stress, the physiological effects of immersion and the optical effects of water and have sufficient physical and mental reserves to deal with possible emergencies.

The history, review of systems and physical examination should include as a minimum the points listed below. The list of conditions that might adversely affect the diver is not all-inclusive, but contains the most commonly encountered medical problems. The brief introductions should serve as an alert to the nature of the risk posed by each medical problem.

The potential diver and his or her physician must weigh the pleasures to be had by diving against an increased risk of death or injury due to the individual's medical condition. As with any recreational activity, there are no data for diving enabling the calculation of an accurate mathematical probability of injury. Experience and physiological principles only permit a qualitative assessment of relative risk.

For the purposes of this document, **Severe Risk** implies that an individual is believed to be at substantially elevated risk of decompression sickness, pulmonary or otic barotrauma or altered consciousness with subsequent drowning, compared with the general population. The consultants involved in drafting this document would generally discourage a student with such medical problems from diving. **Relative Risk** refers to a moderate increase in risk, which in some instances may be acceptable. To make a decision as to whether diving is contraindicated for this category of medical problems, physicians must base their judgement on an assessment of the individual patient. Some medical problems which may preclude diving are **temporary** in nature or responsive to treatment, allowing the student to dive safely after they have resolved.

Diagnostic studies and specialty consultations should be obtained as indicated to determine the diver's status. A list of references is included to aid in clarifying issues that arise. Physicians and other medical professionals of the Divers Alert Network (DAN) associated with Duke University Health System are available for consultation by phone +1 919 684 2948 during normal business hours. For emergency calls, 24 hours 7 days a week, call +1 919 684 8111 or +1 919 684 4DAN (collect). Related organizations exist in other parts of the world – DAN Europe in Italy +39 039 605 7858, DAN S.E.A.P. in Australia +61 3 9886 9166 and Divers Emergency Service (DES) in Australia +61 8 8212 9242, DAN Japan +81 33590 6501 and DAN Southern Africa +27 11 242 0380. There are also a number of informative websites offering similar advice.

NEUROLOGICAL

Neurological abnormalities affecting a diver's ability to perform exercise should be assessed according to the degree of compromise. Some diving physicians feel that conditions in which there can be a waxing and waning of neurological symptoms and signs, such as migraine or demyelinating disease, contraindicate diving because an exacerbation or attack of the preexisting disease (e.g.: a migraine with aura) may be difficult to distinguish from neurological decompression sickness. A history of head injury resulting in unconsciousness should be evaluated for risk of seizure.

Relative Risk Conditions

- **Complicated Migraine Headaches whose symptoms or severity impair motor or cognitive function, neurologic manifestations**
- **History of Head Injury with sequelae other than seizure**
- **Herniated Nucleus Pulposus**
- **Intracranial Tumor or Aneurysm**
- **Peripheral Neuropathy**
- **Multiple Sclerosis**
- **Trigeminal Neuralgia**
- **History of spinal cord or brain injury**

Temporary Risk Condition

History of cerebral gas embolism without residual where pulmonary air trapping has been excluded and for which there is a satisfactory explanation and some reason to believe that the probability of recurrence is low.

Severe Risk Conditions

Any abnormalities where there is a significant probability of unconsciousness, hence putting the diver at increased risk of drowning. Divers with spinal cord or brain abnormalities where perfusion is impaired may be at increased risk of decompression sickness.

Some conditions are as follows:

- **History of seizures other than childhood febrile seizures**
- **History of Transient Ischemic Attack (TIA) or Cerebrovascular Accident (CVA)**
- **History of Serious (Central Nervous System, Cerebral or Inner Ear) Decompression Sickness with residual deficits**

CARDIOVASCULAR SYSTEMS

Relative Risk Conditions

The diagnoses listed below potentially render the diver unable to meet the exertional performance requirements likely to be encountered in recreational diving. These conditions may lead the diver to experience cardiac ischemia and its consequences. Formalized stress testing is encouraged if there is any doubt regarding physical performance capability. The suggested minimum criteria for stress testing in such cases is at least 13 METS.* Failure to meet the exercise criteria would be of significant concern. Conditioning and retesting may make later qualification possible. Immersion in water causes a redistribution of blood from the periphery into the central compartment, an effect that is greatest in cold water. The marked increase in cardiac preload during immersion can precipitate pulmonary edema in patients with impaired left ventricular function or significant valvular disease. The effects of immersion can mostly be gauged by an assessment of the diver's performance while swimming on the surface. A large proportion of scuba diving deaths in North America are due to coronary artery disease. Before being approved to scuba dive, individuals older than 40 years are recommended to undergo risk assessment for coronary artery disease. Formal exercise testing may be needed to assess the risk.

* METS is a term used to describe the metabolic cost. The MET at rest is one, two METS is two times the resting level, three METS is three times the resting level, and so on. The resting energy cost (net oxygen requirement) is thus standardized. (Exercise Physiology; Clark, Prentice Hall, 1975.)

Relative Risk Conditions

- **History of Coronary Artery Bypass Grafting (CABG)**
- **Percutaneous Balloon Angioplasty (PCTA) or Coronary Artery Disease (CAD)**
- **History of Myocardial Infarction**
- **Congestive Heart Failure**
- **Hypertension**
- **History of dysrythmias requiring medication for suppression**
- **Valvular Regurgitation**

Pacemakers

The pathologic process that necessitated should be addressed regarding the diver's fitness to dive. In those instances where the problem necessitating pacing does not preclude diving, will the diver be able to meet the performance criteria?

*** NOTE: Pacemakers must be certified by the manufacturer as able to withstand the pressure changes involved in recreational diving.**

Severe Risks

Venous emboli, commonly produced during decompression, may cross major intracardiac right-to-left shunts and enter the cerebral or spinal cord circulations causing neurological decompression illness. Hypertrophic cardiomyopathy and valvular stenosis may lead to the sudden onset of unconsciousness during exercise.

PULMONARY

Any process or lesion that impedes airflow from the lungs places the diver at risk for pulmonary overinflation with alveolar rupture and the possibility of cerebral air embolization. Many interstitial diseases predispose to spontaneous pneumothorax: Asthma (reactive airway disease), Chronic Obstructive Pulmonary Disease (COPD), cystic or cavitating lung diseases may all cause air trapping. The 1996 Undersea and Hyperbaric Medical Society (UHMS) consensus on diving and asthma indicates that for the risk of pulmonary barotrauma and decompression illness to be acceptably low, the asthmatic diver should be asymptomatic and have normal spirometry before and after an exercise test. Inhalation challenge tests (e.g.: using histamine, hypertonic saline or methacholine) are not sufficiently standardized to be interpreted in the context of scuba diving.

A pneumothorax that occurs or reoccurs while diving may be catastrophic. As the diver ascends, air trapped in the cavity expands and could produce a tension pneumothorax.

In addition to the risk of pulmonary barotrauma, respiratory disease due to either structural disorders of the lung or chest wall or neuromuscular disease may impair exercise performance. Structural disorders of the chest or abdominal wall (e.g.: prune belly), or neuromuscular disorders, may impair cough, which could be life threatening if water is aspirated. Respiratory limitation due to disease is compounded by the combined effects of immersion (causing a restrictive deficit) and the increase in gas density, which increases in proportion to the ambient pressure (causing increased airway resistance). Formal exercise testing may be helpful.

Relative Risk Conditions

- **History of Asthma or Reactive Airway Disease (RAD)***
- **History of Exercise Induced Bronchospasm (EIB)***
- **History of solid, cystic or cavitating lesion***
- **Pneumothorax secondary to:**
  - **-Thoracic Surgery**
  - **-Trauma or Pleural Penetration***
  - **-Previous Overinflation Injury***
- **Obesity**
- **History of Immersion Pulmonary Edema Restrictive Disease***
- **Interstitial lung disease: May increase the risk of pneumothorax**

* Spirometry should be normal before and after exercise

Active Reactive Airway Disease, Active Asthma, Exercise Induced Bronchospasm, Chronic Obstructive Pulmonary Disease or history of same with abnormal PFTs or a positive exercise challenge are concerns for diving.

Severe Risk Conditions

- **History of spontaneous pneumothorax.** Individuals who have experienced spontaneous pneumothorax should avoid diving, even after a surgical procedure designed to prevent recurrence (such as pleurodesis). Surgical procedures either do not correct the underlying lung abnormality (e.g.: pleurodesis, apical pleurectomy) or may not totally correct it (e.g.: resection of blebs or bullae).
- **Impaired exercise performance due to respiratory disease.**

GASTROINTESTINAL

Temporary Risks

As with other organ systems and disease states, a process which chronically debilitates the diver may impair exercise performance. Additionally, dive activities may take place in areas remote from medical care. The possibility of acute recurrences of disability or lethal symptoms must be considered.

Temporary Risk Conditions

- **Peptic Ulcer Disease associated with pyloric obstruction or severe reflux**
- **Unrepaired hernias of the abdominal wall large enough to contain bowel within the hernia sac could incarcerate.**

Relative Risk Conditions

- **Inflammatory Bowel Disease**
- **Functional Bowel Disorders**

Severe Risks

Altered anatomical relationships secondary to surgery or malformations that lead to gas trapping may cause serious problems. Gas trapped in a hollow viscous expands as the divers surfaces and can lead to rupture or, in the case of the upper GI tract, emesis. Emesis underwater may lead to drowning.

Severe Risk Conditions

- **Gastric outlet obstruction of a degree sufficient to produce recurrent vomiting**
- **Chronic or recurrent small bowel obstruction**
- **Severe gastroesophageal reflux**
- **Achalasia**
- **Paraesophageal Hernia**

ORTHOPAEDIC

Relative impairment of mobility, particularly in a boat or ashore with equipment weighing up to 18 kgs/40 pounds must be assessed. Orthopaedic conditions of a degree sufficient to impair exercise performance may increase the risk.

Relative Risk Conditions

- **Amputation**
- **Scoliosis must also assess impact on respiratory function and exercise performance.**
- **Aseptic Necrosis possible risk of progression due to effects of decompression (evaluate the underlying medical**

cause of decompression may accelerate/escalate the progression).

Temporary Risk Conditions

- **Back pain**

HEMATOLOGICAL

Abnormalities resulting in altered rheological properties may theoretically increase the risk of decompression sickness. Bleeding disorders could worsen the effects of otic or sinus barotrauma, and exacerbate the injury associated with inner ear or spinal cord decompression sickness. Spontaneous bleeding into the joints (e.g.: in hemophilia) may be difficult to distinguish from decompression illness.

Relative Risk Conditions

- **Sickle Cell Disease**
- **Polycythemia Vera**
- **Leukemia**
- **Hemophilia/Impaired Coagulation**

METABOLIC AND ENDOCRINOLOGICAL

With the exception of diabetes mellitus, states of altered hormonal or metabolic function should be assessed according to their impact on the individual's ability to tolerate the moderate exercise requirement and environmental stress of sport diving. Obesity may predispose the individual to decompression sickness, can impair exercise tolerance and is a risk factor for coronary artery disease.

Relative Risk Conditions

- **Hormonal Excess or Deficiency**
- **Obesity**
- **Renal Insufficiency**

Severe Risk Conditions

The potentially rapid change in level of consciousness associated with hypoglycemia in diabetics on insulin therapy or certain oral hypoglycemic medications can result in drowning. Diving is therefore generally contraindicated, unless associated with a specialized program that addresses these issues. [See "Guidelines for Recreational Diving with Diabetes" at www/wrstc.com and www.diversalertnetwork.org.]

Pregnancy: The effect of venous emboli formed during decompression on the fetus has not been thoroughly investigated. Diving is therefore not recommended during any stage of pregnancy or for women actively seeking to become pregnant.

BEHAVIORAL HEALTH

Behavioral: The diver's mental capacity and emotional make-up are important to safe diving. The student diver must have sufficient learning abilities to grasp information presented to him by his instructors, be able to safely plan and execute his own dives and react to changes around him in the underwater environment. The student's motivation to learn and his ability to deal with potentially dangerous situations are also crucial to safe scuba diving.

Relative Risk Conditions

- **Developmental delay**
- **History of drug or alcohol abuse**
- **History of previous psychotic episodes**
- **Use of psychotropic medications**

Severe Risk Conditions

- **Inappropriate motivation to dive – solely to please spouse, partner or family member, to prove oneself in the face of personal fears**
- **Claustrophobia and agoraphobia**
- **Active psychosis**
- **History of untreated panic disorder**
- **Drug or alcohol abuse**

OTOLARYNGOLOGICAL

Equalisation of pressure must take place during ascent and descent between ambient water pressure and the external auditory canal, middle ear and paranasal sinuses. Failure of this to occur results at least in pain and in the worst case rupture of the occluded space with disabling and possible lethal consequences.

The inner ear is fluid filled and therefore noncompressible. The flexible interfaces between the middle and inner ear, the round and oval windows are, however, subject to pressure changes. Previously ruptured but healed round or oval window membranes are at increased risk of rupture due to failure to equalise pressure or due to marked overpressurisation during vigorous or explosive Valsalva manoeuvres.

The larynx and pharynx must be free of an obstruction to airflow. The laryngeal and epiglotic structure must function normally to prevent aspiration.

Mandibular and maxillary function must be capable of allowing the patient to hold a scuba mouthpiece. Individuals who have had mid-face fractures may be prone to barotrauma and rupture of the air filled cavities involved.

Relative Risk Conditions

- **Recurrent otitis externa**
- **Significant obstruction of external auditory canal**
- **History of significant cold injury to pinna**
- **Eustachian tube dysfunction**
- **Recurrent otitis media or sinusitis**
- **History of TM perforation**
- **History of tympanoplasty**
- **History of mastoidectomy**
- **Significant conductive or sensorineural hearing impairment**
- **Facial nerve paralysis not associated with barotrauma**
- **Full prosthedontic devices**
- **History of mid-face fracture**
- **Unhealed oral surgery sites**
- **History of head and/or neck therapeutic radiation**
- **History of temperomandibular joint dysfunction**
- **History of round window rupture**

Severe Risk Conditions

- **Monomeric TM**
- **Open TM perforation**
- **Tube myringotomy**
- **History of stapedectomy**
- **History of ossicular chain surgery**
- **History of inner ear surgery**
- **Facial nerve paralysis secondary to barotrauma**
- **Inner ear disease other than presbycusis**
- **Uncorrected upper airway obstruction**
- **Laryngectomy or status post partial laryngectomy**
- **Tracheostomy**
- **Uncorrected laryngocele**
- **History of vestibular decompression sickness**

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11. Divers Alert Network (DAN) United States, 6 West Colony Place, Durham, NC www.DiversAlertNetwork.org
12. Divers Alert Network Europe, P.O. Box 64026 Roseto, Italy, telephone non-emergency line: weekdays office hours +39-085-893-0333, emergency line 24 hours: +39-039-605-7858
13. Divers Alert Network S.E.A.P., P. O. Box 384, Ashburton, Australia, telephone 61-3-9886-9166
14. Divers Emergency Service, Australia, www.rah.sa.gov.au/hyperbaric, telephone 61-8-8212-9242
15. South Pacific Underwater Medicine Society (SPUMS), P.O. Box 190, Red Hill South, Victoria, Australia, www.spums.org.au
16. European Underwater and Baromedical Society, www.eubs.org

ENDORSERS

Paul A. Thombs, M.D., Medical Director
Hyperbaric Medical Center
St. Luke's Hospital, Denver, CO, USA

Peter Bennett, Ph.D., D.Sc.
Professor, Anesthesiology
Duke University Medical Center
Durham, NC, USA
pbennett@dan.duke.edu

Richard E. Moon, M.D., F.A.C.P., F.C.C.P.
Departments of Anesthesiology and Pulmonary Medicine
Duke University Medical Center
Durham, NC, USA

Roy A. Myers, M.D.
MIEMS
Baltimore, MD, USA

William Clem, M.D., Hyperbaric Consultant
Division Presbyterian/St. Luke's Medical Center
Denver, CO, USA

John M. Alexander, M.D.
Northridge Hospital
Los Angeles, CA, USA

Des Gorman, B.Sc., M.B.Ch.B., F.A.C.O.M., F.A.F.O.M., Ph.D.
Professor of Medicine
University of Auckland, Auckland, NZ
d.gorman@auckland.ac.nz

Alf O. Brubakk, M.D., Ph.D.
Norwegian University of Science and Technology
Trondheim, Norway
alfb@medisin.ntnu.no

Alessandro Marroni, M.D.
Director, DAN Europe
Roseto, Italy
Hugh Greer, M.D.
Santa Barbara, CA, USA
hdgblgfpl@aol.com

Christopher J. Acott, M.B.B.S., Dip. D.H.M., F.A.N.Z.C.A.
Physician in Charge, Diving Medicine
Royal Adelaide Hospital
Adelaide, SA 5000, Australia

Chris Edge, M.A., Ph.D., M.B.B.S., A.F.O.M.
Nuffield Department of Anaesthetics
Radcliffe Infirmary
Oxford, United Kingdom
cjedge@diver.demon.co.uk

Richard Vann, Ph.D.
Duke University Medical Center
Durham, NC, USA

Keith Van Meter, M.D., F.A.C.E.P.
Assistant Clinical Professor of Surgery
Tulane University School of Medicine
New Orleans, LA, USA

Robert W. Goldmann, M.D.
St. Luke's Hospital
Milwaukee, WI, USA

Paul G. Linaweaver, M.D., F.A.C.P.
Santa Barbara Medical Clinic
Undersea Medical Specialist
Santa Barbara, CA, USA

James Vorosmarti, M.D.
6 Orchard Way South
Rockville, MD, USA

Tom S. Neuman, M.D., F.A.C.P., F.A.C.P.M.
Associate Director, Emergency Medical Services
Professor of Medicine and Surgery
University of California at San Diego
San Diego, CA, USA

Yoshihiro Mano, M.D.
Professor
Tokyo Medical and Dental University
Tokyo, Japan
y.mano.ns@tmd.ac.jp

Simon Mitchell, MB.ChB., DipDHM, Ph.D.
Wesley Centre for Hyperbaric Medicine
Medical Director
Sandford Jackson Bldg., 30 Chasely Street
Auchenflower, QLD 4066 Australia
smitchell@wesley.com.au

Jan Risberg, M.D., Ph.D.
NUI, Norway

Karen B.Van Hoesen, M.D.
Associate Clinical Professor
UCSD Diving Medicine Center
University of California at San Diego
San Diego, CA, USA

Edmond Kay, M.D., F.A.A.F.P.
Dive Physician & Asst. Clinical Prof. of Family Medicine
University of Washington
Seattle, WA, USA
ekay@u.washington.edu

Christopher W. Dueker, TWS, M.D.
Atherton, CA, USA
chrisduek@aol.com

Charles E. Lehner, Ph.D.
Department of Surgical Sciences
University of Wisconsin
Madison, WI, USA
celehner@facstaff.wisc.edu

Undersea & Hyperbaric Medical Society
10531 Metropolitan Avenue
Kensington, MD 20895, USA

Diver's Alert Network (DAN)
6 West Colony Place
Durham, NC 27705

STANDARD SAFE DIVING PRACTICES STATEMENT OF UNDERSTANDING

Please read carefully before signing.

This is a statement in which you are informed of the established safe diving practices for skin and scuba diving. These practices have been compiled for your review and acknowledgement and are intended to increase your comfort and safety in diving. Your signature on this statement is required as proof that you are aware of these safe diving practices. Read and discuss the statement prior to signing it. If you are a minor, this form must also be signed by a parent or guardian.

I, _____ , understand that as a diver I should:
(Print Name)

1. Maintain good mental and physical fitness for diving. Avoid being under the influence of alcohol or dangerous drugs when diving. Keep proficient in diving skills, striving to increase them through continuing education and reviewing them in controlled conditions after a period of diving inactivity, and refer to my course materials to stay current and refresh myself on important information.

2. Be familiar with my dive sites. If not, obtain a formal diving orientation from a knowledgeable, local source. If diving conditions are worse than those in which I am experienced, postpone diving or select an alternate site with better conditions. Engage only in diving activities consistent with my training and experience. Do not engage in cave or technical diving unless specifically trained to do so.

3. Use complete, well-maintained, reliable equipment with which I am familiar; and inspect it for correct fit and function prior to each dive. Have a buoyancy control device, low-pressure buoyancy control inflation system, submersible pressure gauge and alternate air source and dive planning/monitoring device (dive computer, RDP/dive tables—whichever you are trained to use) when scuba diving. Deny use of my equipment to uncertified divers.

4. Listen carefully to dive briefings and directions and respect the advice of those supervising my diving activities. Recognize that additional training is recommended for participation in specialty diving activities, in other geographic areas and after periods of inactivity that exceed six months.

5. Adhere to the buddy system throughout every dive. Plan dives – including communications, procedures for reuniting in case of separation and emergency procedures – with my buddy.

6. Be proficient in dive planning (dive computer or dive table use). Make all dives no decompression dives and allow a margin of safety. Have a means to monitor depth and time underwater. Limit maximum depth to my level of training and experience. Ascend at a rate of not more than 18 metres/60 feet per minute. Be a SAFE diver – **S**lowly **A**scend **F**rom **E**very dive. Make a safety stop as an added precaution, usually at 5 metres/15 feet for three minutes or longer.

7. Maintain proper buoyancy. Adjust weighting at the surface for neutral buoyancy with no air in my buoyancy control device. Maintain neutral buoyancy while underwater. Be buoyant for surface swimming and resting. Have weights clear for easy removal, and establish buoyancy when in distress while diving. Carry at least one surface signaling device (such as signal tube, whistle, mirror).

8. Breathe properly for diving. Never breath-hold or skip-breathe when breathing compressed air, and avoid excessive hyperventilation when breath-hold diving. Avoid overexertion while in and underwater and dive within my limitations.

9. Use a boat, float or other surface support station, whenever feasible.

10. Know and obey local dive laws and regulations, including fish and game and dive flag laws.

I have read the above statements and have had any questions answered to my satisfaction. I understand the importance and purposes of these established practices. I recognize they are for my own safety and well-being, and that failure to adhere to them can place me in jeopardy when diving.

_____ _____
Participant's Signature Date (Day/Month/Year)

_____ _____
Signature of Parent or Guardian (where applicable) Date (Day/Month/Year)

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