



ZOO ECO-ADVENTURE CAMP AGREEMENT

DATES AND LOCATIONS:

Part 1 Location: Omaha's Henry Doorly Zoo

Part 2 Location: Cozumel, Mexico

Part 1 Dates/Times: July 8-12, 2019 7:30 a.m. to 3:00 p.m.

Part 2 Dates: July 15-23, 2019

COSTS AND PAYMENTS:

Total Cost per Participant (Including Airfare, Transportation, Lodging, Meals, Course Work, and Certifications): \$3500

Deposit: \$500

Agreement & Deposit Due Date: February 15, 2019

Interim Payment: \$1,500

Interim Payment Due Date: March 29, 2019

Final Payment: \$1,500

Final Payment Due Date: May 3, 2019

PARTICIPANT INFORMATION:

Participant Name: _____

Participant Date of Birth: _____ Last Grade Completed (8th Grade Minimum): _____

Participant Email Address: _____

Participant Phone: _____

Participant Address: _____

Are you interested in a scholarship application for financial assistance (check one)? Yes _____ No _____

PARENT/GUARDIAN (EMERGENCY CONTACT) INFORMATION:

**If there is only one Parent/Guardian, please list an alternate emergency contact as Parent/Guardian #2.*

Name of Parent(s)/Guardian(s) with Whom Student Resides: _____

Parent/Guardian #1 Name: _____

Parent/Guardian #1 Preferred Phone Number: _____ Relationship to Participant: _____

Parent/Guardian #1 Email Address: _____

Parent/Guardian #1 Address (If Different from Participant): _____

Parent/Guardian #2 Name: _____

Parent/Guardian #2 Preferred Phone Number: _____ Relationship to Participant: _____

Parent/Guardian #2 Email Address: _____

Parent/Guardian #2 Address (If Different from Participant): _____

REQUIREMENTS:

- Timely Deposit, Interim Payment, and Final Payment
- Completed and Signed Zoo Eco-Adventure Camp Agreement
- Completed and Signed Participant Details Form
- Completed and Signed Code of Conduct
- Completed, Signed, and Notarized Consent for Foreign Travel
- Completed, Signed, and Notarized Temporary Delegation of Parental Powers
- Completed and Signed SCUBA Schools International Medical Statement
- Copy of Health Insurance Card (valid during dates and at locations of Eco-Adventure)
- Copy of Passport (valid for at least 6 months after dates of Eco-Adventure)

QUESTIONS:

Call 402-738-2092 or email kai.fritchman@omahazoo.com

TERMS AND CONDITIONS:

1. Camp: The "Camp" is a two-part educational camp where participants (a) spend "Part 1" shadowing animal care staff, learning about ocean and marine animals, and completing coursework and hands-on activities at the at the Omaha's Henry Doorly Zoo and Aquarium operated by the Omaha Zoological Society (the "Zoo"), and (b) spend "Part 2" with a chaperoned group of participants in Cozumel, Mexico learning SCUBA on a coral reef, viewing whale sharks, viewing Mayan ruins, and engaging in other educational, cultural, and tourist activities.

2. Agreement: You are signing this Agreement on behalf of your minor child (the "Child"). By signing this Agreement, you give permission for and authorize your Child to participate in the Camp. You must complete and sign this Agreement and return it by mail to Omaha's Henry Doorly Zoo & Aquarium, Education Department, 3701 South 10th Street, Omaha, NE, 68107, on or before February 15, 2019. Please retain a copy of this Agreement for your records. You must simultaneously make a \$500 deposit (payable by check), which will be immediately applied to the total amount owed under this Agreement. Your Child's participation in the Camp is not guaranteed unless and until the Zoo has received both your deposit and this signed and completed Agreement, provided that there is still availability at such time (as participation is given on a first come, first served basis).

3. Attachments: On or before the Final Payment Date, you must complete, sign (and notarize, where required), and return each attachment to this Agreement including (a) the Participant Details Form, (b) the Code of Conduct, (c) the Consent for Foreign Travel, (d) the Temporary Delegation of Parental Powers, and (e) the SCUBA Schools International Medical Statement (which also requires physician sign off). Each attachment is hereby incorporated into this Agreement.

4. Health and Accident Insurance: It is your responsibility to confirm with your provider that your health and accident insurance coverage applies during the dates and locations of the Camp, and, if not, to acquire adequate supplementary coverage. By signing this Agreement, you represent and warrant that your Child will be covered by adequate health and accident insurance coverage that will remain in full force and effect throughout all participation in the Camp. On or before the Final Payment Date, you must provide a copy of a valid health and accident insurance card providing health and accident coverage for your Child during the Camp.

5. Passport: By signing this Agreement, you represent and warrant that your Child will have a valid passport that will remain in full force and effect throughout all participation in the Camp and for a period of six months thereafter. On or before the Final Payment Date, you must provide a copy of a valid passport of your Child that will remain valid for at least six months after the Camp.

6. Participation: All Camp participants must be students who have completed at least 8th grade; in addition, at least one Zoo representative and other non-Zoo adult chaperones (e.g., parents, teachers, college students) will be present during Part 2.

7. Included Items: The cost of the Camp includes (a) the costs of coursework and activities involved in Part 1 of the Camp, and (b) the airfare, transportation, meals, coursework, and SCUBA certifications involved in Part 2 of the Camp. You are responsible for any and all other costs of participation, if any, which are expressly excluded.

8. Payments: All payments (including the Deposit, Interim Payment, and Final Payment) are payable to Omaha's Henry Doorly Zoo & Aquarium by check. All payments are non-refundable. A returned check fee of \$35 will be charged if any check is returned unpaid. Any failure to timely pay any amounts owed in accordance with this Agreement will constitute a default of this Agreement, upon which the Zoo may elect, in its sole discretion, to terminate this Agreement. Any other additional costs imposed pursuant to the terms and conditions of this Agreement (e.g., costs of travel for early return home, costs of damage to hotel/home stay property) is due and payable on two (2) days' notice from the Zoo.

9. Additional Charges: The Zoo is not responsible for lost, stolen, or missing items of participants. If any Zoo, hotel, home stay, or other property is missing, is damaged, or requires cleaning as a result of your Child, you will be charged for such replacement, repair, and/or cleaning.

10. Default and Violations; No Refund: Any default under or violation of this Agreement (including, but not limited to, the Code of Conduct) will be determined by the Zoo in its sole discretion; the Zoo's decisions regarding defaults and violations are final and not subject to appeal. If the Zoo determines that there has been a default or violation, the Zoo may terminate your Child's involvement in all or any part of the Camp, in its sole discretion. As a result thereof, the Zoo may prohibit your Child from attending the remainder of the Camp (the remainder of Part 1 and all of Part 2, if the violation occurs at any time prior to Part 2), without a refund, and may send your Child home prior to the end of Part 2 of the Camp (if the violation occurs or is discovered during Part 2), without a refund and at your additional expense.

11. Cancellation; No Refund: You may cancel your Child's participation in the Camp at any time by providing written notice to the Zoo, provided that you will not be entitled to any refund of any amounts previously paid for the Camp (whether Deposit, Interim Payment, Final Payment, or otherwise).

12. Indemnity and Liability Limitation: By signing this Agreement, you hereby represent and warrant that you understand the nature of the activities involved in the Camp, the character of the foreign location of the Camp, and the risk of bodily injury/death and property damage/loss associated with such activities and location. To the fullest extent permitted by law, by signing this Agreement, you (on behalf of yourself and your Child) hereby (a) assume any and all risk of loss, injury, or damage to person or property, whether anticipated or unanticipated, arising directly or indirectly from the

Camp or this Agreement, and (b) forever waive, release, discharge, and covenant not to sue, and agree to indemnify, defend, and hold harmless, the Zoo, its affiliates, supporting organizations, Board of Directors, officers, agents, employees, and volunteers (collectively, the "Zoo Indemnitees") from any and all claims, demands, losses, injuries, or damages of any kind or nature (including attorney's fees) and however caused that may occur directly or indirectly as a result of, or arising out of, the Camp or this Agreement, except if solely caused by the Zoo Indemnitees' willful misconduct or gross negligence. The Zoo Indemnitees have the right, in their sole discretion and at your cost, to participate in the defense of any claim. In no event shall any Zoo Indemnitee have liability for any incidental, indirect, punitive, special, or consequential damages. Except as expressly set forth in this Agreement, the Zoo makes no other representations or warranties, express or implied. The provisions of this paragraph shall survive expiration or termination of this Agreement.

13. Media Release: Unless you expressly opt out by initialing below, the Zoo has the right use your Child's name, likeness, and image in photographs, videos, printed materials, web pages, social media posts, and local media stories for informational and promotional purposes regarding the Zoo and the Camp, without compensation. You have no right to review such items prior to their use.

Opt out of photographs, videos, printed materials, web pages, social media posts: _____
Opt out of local media stories: _____

14. Changes; Force Majeure: The Zoo may at any time prior to or during the Camp make cancellations, changes, or substitutions as determined by the Zoo in emergencies, in changed conditions, or in the interest of the group. Prior to the Camp, the Zoo may alter the total cost of the Camp, and require related additional payments, to meet unexpected changes in airfare, transportation, or lodging that are beyond the reasonable control of the Zoo. If the Zoo is unable to fulfill its obligations under this Agreement due to an occurrence beyond its reasonable control or as required for the safety of participants (including, without limitation, severe weather, natural disaster, acts of war or terrorism, governmental decrees), the Zoo is excused from performance without liability and is not responsible for any failure to perform. In such event, (a) the Zoo may reschedule or cancel all or any part of the Camp, in its sole discretion, and (b) you will not be entitled to any refund, provided that the Zoo shall use commercially reasonable efforts to cancel, avoid, or otherwise mitigate charges and damages, and will pass any such savings on to you.

15. Further Assurances. At any time, and the Zoo's request and without further consideration, you will execute and deliver such other instruments, provide such materials and information, and take such other actions as such the Zoo may reasonably deem necessary or desirable with regard to your Child's participation in the Camp.

16. General: This Agreement shall be governed by Nebraska law. This Agreement (including all attachments hereto and documents referenced herein) constitutes the entire agreement pertaining to your Child's participation in the Camp and supersedes all prior agreements, understandings, and discussions, whether oral or written. Any amendment or waiver of this Agreement or any right or obligation herein must be in writing and signed by you and the Zoo. No failure or delay by the Zoo in exercising any right hereunder shall operate as a waiver thereof nor shall any single or partial exercise preclude any further or other exercise. You may not assign this agreement. Nothing in this Agreement is intended to confer any rights or remedies on any third persons. The provisions of this Agreement are declared severable so any invalidity or unenforceability of any provision shall not affect other lawful provisions. Time is of the essence of this Agreement.

SIGNATURE:

Any changes I unilaterally make to the terms and conditions of this Agreement are null and void and of no legal effect. I have read and understand this Agreement (including all of its attachments) and I voluntarily accept and agree to be bound by all of its terms and conditions. I represent and warranty that all the information I conveyed in this Agreement (including all of its attachments) is true, accurate, and complete to the best of my knowledge, and I acknowledge and agree that false statements may be grounds for termination of this Agreement and removal of the participant, without refund. I represent and warrant that I have authority to execute this Agreement.

Participant Signature: _____ Date: _____

Printed Name: _____

Parent/Guardian Signature: _____ Date: _____

Printed Name: _____

PARTICIPANT DETAILS

PARTICIPANT PASSPORT DETAILS:

Participant Legal Name (as it appears on Passport): _____

Passport Number: _____ Passport Expiration Date: _____

PARTICIPANT DIETARY DETAILS:

Food Allergies: _____

Dietary Restrictions (i.e., Vegetarian, Vegan, Pescetarian): _____

Other Pertinent Information: _____

PARTICIPANT MEDICAL DETAILS:

Pertinent Allergies: _____

Pertinent Diagnoses: _____

Pertinent Required Medications (including Epipens): _____

Special Accommodations Required for Participation: _____

Other Pertinent Information: _____

* You are responsible for consulting with your physician regarding your fitness to travel to Cozumel, Mexico and participate in the Camp. You are responsible for determining and obtaining any vaccines necessary as a result of your travel to Cozumel, Mexico and participation in the Camp

PARTICIPANT APPAREL DETAILS:

T-Shirt Size: _____

Shoe Size: _____

CONTACT UPON ARRIVAL:

Contact Person: _____

Phone Number: _____

SIGNATURE:

Participant Signature: _____ Date: _____

Printed Name: _____

Parent/Guardian Signature: _____ Date: _____

Printed Name: _____

CODE OF CONDUCT

PARTICIPANT AGREEMENT AND ACKNOWLEDGMENT:

While traveling with Omaha's Henry Doorly Zoo & Aquarium:

Initial Each:

_____ I agree to abide by all Zoo rules, regulations, policies, and procedures during this Camp.

_____ I agree to abide by all applicable laws during this Camp.

_____ I agree to dress and act respectfully and appropriately at all times during this Camp.

_____ I agree to not use tobacco products, alcoholic products, or drugs during this Camp (excluding proper use of prescribed medicine).

_____ I agree to refrain from sexual activity during Part 2 of this Camp.

_____ I agree to not acquire any tattoo or body piercing on this trip during Part 2 of this Camp.

_____ I agree to respect the property of all hotels, home stays, and other locations during Part 2 of this Camp.

_____ I agree to follow all instructions of Zoo representatives during Part 1 of this Camp and I agree to follow all instructions of the chaperones (whether Zoo representatives or otherwise) and local guides and to respect the authority of the chaperones and local guides during Part 2 of this Camp; I realize that I need to do what they say for purposes of group safety and cohesion.

_____ I agree to respect all animals, Zoo guests, Zoo representatives, other Camp participants, Camp chaperones, Camp local guides, and others I may come into contact with during this Camp.

_____ I understand that my violations of this Code of Conduct will be determined by the Zoo representative (which may obtain input from tour guides/chaperones), in the Zoo representative's sole discretion, and that the Zoo representative's decisions are final and not subject to appeal.

_____ I understand that if I violate this Code of Conduct or if I engage in conduct deemed by the Zoo representative, in the Zoo representative's sole discretion, to be detrimental or incompatible with the interest, harmony, comfort, or welfare of the Camp as a whole, then the Zoo, in the Zoo representative's sole discretion, may terminate my involvement in all or any part of the Camp and may prohibit me from attending the remainder of the Camp (the remainder of Part 1 and all of Part 2, if the violation occurs at any time prior to Part 2), without a refund, or send me home prior to the end of the Part 2 of the Camp (if the violation occurs or is discovered during Part 2) without a refund and at my parent/guardian's additional expense.

Participant Signature: _____

Date: _____

Printed Name: _____

PARENT/GUARDIAN AGREEMENT AND ACKNOWLEDGMENT:

With regard to this Code of Conduct:

Initial Each:

_____ I have read and agreed to the Code of Conduct.

_____ My Child has read and agreed to the Code of Conduct.

_____ I understand that my Child's violation of the Code of Conduct will be determined by the Zoo representative (which may obtain input from tour guides/chaperones), in the Zoo representative's sole discretion, and that the Zoo representative's decisions are final and not subject to appeal.

_____ I understand and agree that if my Child violates the Code of Conduct or if my Child engages in conduct deemed by the Zoo representative, in the Zoo representative's sole discretion, to be detrimental or incompatible with the interest, harmony, comfort, or welfare of the Camp as a whole, then the Zoo, in the Zoo representative's sold discretion, may terminate my Child's involvement in all or any part of the Camp and may prohibit my Child from attending the remainder of the Camp (the remainder of Part 1 and all of Part 2, if the violation occurs at any time prior to Part 2), without a refund, and may send my Child home prior to the end of Part 2 of the Camp (if the violation occurs or is discovered during Part 2), without a refund and at my additional expense.

Parent/Guardian Signature: _____

Date: _____

Printed Name: _____

CONSENT FOR FOREIGN TRAVEL

I/We _____

(Full Name(s) of Custodial Parent(s) and/or Non-Custodial Legal Guardian(s))

am/are the lawful custodial parent(s) and/or non-custodial legal guardian(s) of:

| | |
|----------------------------------|--|
| Child's Full Name (the "Child"): | |
| Date of Birth: | |
| Place of Birth: | |
| U.S. Passport Number: | |

The Child has my/our consent to travel with Elizabeth Mulkerrin, Vice President-Education at Omaha's Henry Doorly Zoo & Aquarium (and other representatives of Omaha's Henry Doorly Zoo & Aquarium-Education Department) from Omaha, Nebraska, USA to Cozumel, Mexico during the period of July 15, 2019 to July 23, 2019. During that period, the Child will be participating in the Cozumel Eco-Adventure Camp sponsored by Omaha's Henry Doorly Zoo & Aquarium.

EXECUTED: _____

Signature #1: _____

Printed Name #1: _____

Signature #2: _____

Printed Name #2: _____

STATE OF NEBRASKA)
) ss.
COUNTY OF _____)

On this ___ day of _____, _____, before me, a notary public in and for said county, personally came _____, parent/guardian of the above-named minor child, to me personally known to be the identical person whose name is affixed to the foregoing instrument, and acknowledged the execution thereof to be his/her voluntary act and deed.

WITNESS my hand and seal in said county, the day and year last above written.

Notary Public

STATE OF NEBRASKA)
) ss.
COUNTY OF _____)

On this ___ day of _____, _____, before me, a notary public in and for said county, personally came _____, parent/guardian of the above-named minor child, to me personally known to be the identical person whose name is affixed to the foregoing instrument, and acknowledged the execution thereof to be his/her voluntary act and deed.

WITNESS my hand and seal in said county, the day and year last above written.

Notary Public

TEMPORARY DELEGATION OF PARENTAL POWERS

The undersigned does hereby states that he/she is the parent/guardian having legal custody of the following minor child (the "Child"):

| Name | Birth Date |
|------|------------|
| | |

Pursuant to Neb. Rev. Stat. § 30-2604, the undersigned does make and appoint Elizabeth Mulkerrin, Vice President-Education at Omaha's Henry Doorly Zoo & Aquarium, with a work address of 3701 South 10th Street, Omaha, NE, 68107 (the "Attorney-in-Fact") to act for the undersigned and in the undersigned's name to exercise all the undersigned's powers regarding the care, custody, and property of the undersigned's Child (except the power to consent to marriage and adoption of the Child. The undersigned hereby gives the Attorney-in-Fact full authority and power to do everything necessary to be done, as fully as the undersigned could or might do if personally present. The undersigned confirms and ratifies all lawful acts done, or caused to be done, by the Attorney-in-Fact acting under this Temporary Delegation of Parental Powers regarding the care, custody, and property of the undersigned's Child.

This Temporary Delegation of Parental Powers will become effective July 15, 2019 and will remain in force until the later of (a) July 23, 2019, or (b) return of the undersigned's Child to Omaha, Nebraska, but in no event will this Temporary Delegation of Parental Powers be in force more than six months. This Temporary Delegation of Parental Powers may be revoked by the undersigned at any time before its expiration by written notice to the Attorney in Fact at the address above.

EXECUTED: _____

Signature: _____

Printed Name: _____

STATE OF NEBRASKA)
) ss.
COUNTY OF _____)

On this ___ day of _____, _____, before me, a notary public in and for said county, personally came _____, parent/guardian of the above-named minor child, to me personally known to be the identical person whose name is affixed to the foregoing instrument, and acknowledged the execution thereof to be his/her voluntary act and deed.

WITNESS my hand and seal in said county, the day and year last above written.

Notary Public



SCUBA SCHOOLS INTERNATIONAL

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:

(INSTRUCTOR) _____
and (FACILITY) _____
located in the city of _____
and state of _____.

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

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

To scuba dive safely, you must 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 heart trouble, a current cold or congestion, epilepsy, asthma, a severe medical problem, or who is under the influence of alcohol or drugs should not dive. If taking medication, consult your doctor and the Instructor before participation in this program. You will also need to 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 History section, review them with your Instructor before signing.

Medical History

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 pre-existing condition that may affect your safety while diving and you must seek the advice of your physician.

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 a 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 attacks or strokes
 - 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 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 medication 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 _____

SIGNATURES OF PARENTS OR GUARDIANS WHERE APPLICABLE _____

DATE _____

Student

(Please print legibly)

Name _____ Birth Date _____ Age _____
First Initial Last

Mailing Address _____

City _____ State/Province _____

Country _____ Zip/Postal Code _____

Home Phone () _____ Business Phone () _____

Telex _____ FAX _____

Name and address of your family or primary care physician:

Physician _____ Clinic/Hospital _____

Address _____ Phone () _____

Date of last physical examination _____

Name of examiner _____ Clinic/Hospital _____

Address _____ Phone () _____

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

Physician

This person is an applicant 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. Please review Guidelines for Recreational Scuba Diver's Physical Examination.

Physician's Impression:

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

I am unable to recommend this individual for diving.

Remarks _____

I have reviewed Guidelines for Recreational Scuba Diver's Physical Examination.

_____, M.D. Date _____
Physician's Signature

Physician _____ Clinic/Hospital _____

Address _____ Phone () _____



SCUBA SCHOOLS
INTERNATIONAL

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 (919) 684-2948 during normal business hours. For emergency calls, 24 hours, 7 days a week, call (919) 684-8111 or (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**
- **Peripheral Neuropathy**
- **Multiple Sclerosis**
- **Trigeminal Neuralgia**
- **History of spinal cord or brain injury**

Temporary Risk Conditions: 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 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 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 dysrhythmias 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 lung places the diver at risk for pulmonary overinflation with alveolar rupture and the possibility of cerebral air embolization. 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.

GASTROINTESTINAL

Temporary Risk: 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

ORTHOPEDIC

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 trait
- 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 hypoglycemia medications can result in drowning. Diving is therefore generally contraindicated, unless associated with a specialized program that addresses these issues.

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 is 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

Equalization 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 equalize pressure or due to marked overpressurization during vigorous or explosive Valsalva maneuvers.

The larynx and pharynx must be free of an obstruction to airflow. The laryngeal and epiglottic 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 prosthodontic devices
- History of mid-face fracture
- Unhealed oral surgery sites
- History of head and/or neck therapeutic radiation
- History of temporomandibular 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

BIBLIOGRAPHY

1. Bennett, P. & Elliott, D (eds.)(1993). The Physiology and Medicine of Diving. 4th Ed., W.B. Saunders Company Ltd., London, England.
2. Bove, A., & Davis, J. 91990). Diving Medicine. 2nd Ed., W.B. Saunders Company, Philadelphia, PA
3. Davis, J., & Bove, A. (1986). "Medical Examination of Sport Scuba Divers, Medical Seminars, Inc.," San Antonio, TX
4. Dembert, M. & Keith, J. (1986). "Evaluating the Potential Pediatric Scuba Diver." AJDC, Vol. 140, November.
5. Edmonds, C., Lowry, C., & Pennefether, J. (1992). 3rd Ed., Diving and Subaquatic Medicine. Butterworth & Heineman Ltd., Oxford, England.
6. Elliot, D. (Ed)(1994). "Medical Assessment of Fitness to Dive." Proceedings of an International Conference at the Edinburgh Conference Centre, Biomedical Seminars, Surry, England.
7. "Fitness to Dive," Proceedings of the 34th Underwater & Hyperbaric Medical Society Workshop (1987) UHMS Publication Number 70 (WS-FD) Bethesda, MD.
8. Neuman, T. & Bove, A. (1994). "Asthma and Diving." Ann. Allergy, Vol. 73, October, O'Conner & Kelsen.
9. Shilling, C. & Carlston, D. & Mathias, R. (eds) (1984). The Physician's Guide to Diving Medicine. Plenum Press, New York, NY.
10. Undersea and Hyperbaric Medical Society (UHMS) www.UHMS.org
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

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