Annual	<b>BSA</b>	Health	and	Medical	Record
Part A					

	_	A Health and Medical Record	•				
Part A	-	RMATION	or staff position:	No.:			
		IMATION	Date of birth			Age	Male □ Female
Address					•		
CityState							
Social S	Security	No. (optional; may be required by medical facilit	ies for treatment)	R	eligiou	ıs pref	erence
Health/	acciden	t insurance company		Policy No			
	ATTAC	H A PHOTOCOPY OF BOTH SIDES OF IN	ISURANCE CARD. IF FA	AMILY HAS NO ME	EDICA	L INS	URANCE, STATE "NONE."
In case	of emer	gency, notify:					
Name			F	Relationship			
		Busine					
		ct		_ Alternate's phon	ie		
	HISTOR						
Are you	ı now, oı	have you ever been treated for any of the	following:				lergies or Reaction to:
Yes	No	Condition	Explain	i	Medic	cation	
		Asthma Last attack:			Food,	Plant	s, or Insect Bites
		Diabetes Last HbA1c:					
		Hypertension (high blood pressure)					Immunizations:
		Heart disease (e.g., CHF, CAD, MI)			The fo	llowin	g are recommended by the BSA.
						ue imi	nunization is required and mus
		Stroke/TIA			Tetan	us IIIII	numzadon is required and mus
					have I	been r	eceived within the last 10 years
		Lung/respiratory disease			have I had di	been r sease	eceived within the last 10 years , put "D" and the year. If immunize
		Lung/respiratory disease Ear/sinus problems			have I had di check	been r sease the bo	eceived within the last 10 years
		Lung/respiratory disease Ear/sinus problems Muscular/skeletal condition			have I had di check Yes	been r sease the bo	eceived within the last 10 years put "D" and the year. If immunize ox and the year received. Date
		Lung/respiratory disease Ear/sinus problems Muscular/skeletal condition Menstrual problems (women only)			had di check Yes	been risease the bo	eceived within the last 10 years put "D" and the year. If immunize and the year received.  Date  Tetanus
		Lung/respiratory disease Ear/sinus problems Muscular/skeletal condition			have I had di check  Yes	been resease the books No	eceived within the last 10 years put "D" and the year. If immunize ox and the year received.  Date  Tetanus  Pertussis
		Lung/respiratory disease  Ear/sinus problems  Muscular/skeletal condition  Menstrual problems (women only)  Psychiatric/psychological and emotional difficulties  Behavioral disorders (e.g., ADD,			have I had di check Yes	been risease, the bo	eceived within the last 10 years put "D" and the year. If immunize extended and the year received.  Date  Tetanus  Pertussis  Diphtheria
		Lung/respiratory disease  Ear/sinus problems  Muscular/skeletal condition  Menstrual problems (women only)  Psychiatric/psychological and emotional difficulties  Behavioral disorders (e.g., ADD, ADHD, Asperger syndrome, autism)			have I had di check Yes	been risease, the bo	eceived within the last 10 years put "D" and the year. If immunize and the year received.  Date  Tetanus  Pertussis  Diphtheria  Measles
		Lung/respiratory disease  Ear/sinus problems  Muscular/skeletal condition  Menstrual problems (women only)  Psychiatric/psychological and emotional difficulties  Behavioral disorders (e.g., ADD, ADHD, Asperger syndrome, autism)  Bleeding disorders			have I had di check Yes	been risease, the bo	eceived within the last 10 years put "D" and the year. If immunize ex and the year received.  Date  Tetanus  Pertussis  Diphtheria  Measles  Mumps
		Lung/respiratory disease  Ear/sinus problems  Muscular/skeletal condition  Menstrual problems (women only)  Psychiatric/psychological and emotional difficulties  Behavioral disorders (e.g., ADD, ADHD, Asperger syndrome, autism)  Bleeding disorders  Fainting spells			have I had di check Yes	been risease, the bo	eceived within the last 10 years put "D" and the year. If immunize and the year received.  Date  Tetanus  Pertussis  Diphtheria  Measles  Mumps  Rubella
		Lung/respiratory disease  Ear/sinus problems  Muscular/skeletal condition  Menstrual problems (women only)  Psychiatric/psychological and emotional difficulties  Behavioral disorders (e.g., ADD, ADHD, Asperger syndrome, autism)  Bleeding disorders  Fainting spells  Thyroid disease			have I had di check Yes	been r isease, the bo	eceived within the last 10 years put "D" and the year. If immunize and the year received.  Date  Tetanus  Pertussis  Diphtheria  Measles  Mumps  Rubella  Polio
		Lung/respiratory disease  Ear/sinus problems  Muscular/skeletal condition  Menstrual problems (women only)  Psychiatric/psychological and emotional difficulties  Behavioral disorders (e.g., ADD, ADHD, Asperger syndrome, autism)  Bleeding disorders  Fainting spells  Thyroid disease  Kidney disease			have I had di check Yes	been risease, the bo	eceived within the last 10 years put "D" and the year. If immunize and the year received.  Date  Tetanus Pertussis Diphtheria Measles Mumps Rubella Polio Chicken pox
		Lung/respiratory disease  Ear/sinus problems  Muscular/skeletal condition  Menstrual problems (women only)  Psychiatric/psychological and emotional difficulties  Behavioral disorders (e.g., ADD, ADHD, Asperger syndrome, autism)  Bleeding disorders  Fainting spells  Thyroid disease			have I had di check Yes	been risease, the bo	eceived within the last 10 years put "D" and the year. If immunize ax and the year received.  Date  Tetanus Pertussis Diphtheria Measles Mumps Rubella Polio Chicken pox Hepatitis A
		Lung/respiratory disease  Ear/sinus problems  Muscular/skeletal condition  Menstrual problems (women only)  Psychiatric/psychological and emotional difficulties  Behavioral disorders (e.g., ADD, ADHD, Asperger syndrome, autism)  Bleeding disorders  Fainting spells  Thyroid disease  Kidney disease  Sickle cell disease  Seizures Last seizure:	Use CPAP: Yes □ No		have I had di checket Yes	been risease, the bo	eceived within the last 10 years put "D" and the year. If immunize ax and the year received.  Date  Tetanus Pertussis Diphtheria Measles Mumps Rubella Polio Chicken pox Hepatitis A Hepatitis B
		Lung/respiratory disease  Ear/sinus problems  Muscular/skeletal condition  Menstrual problems (women only)  Psychiatric/psychological and emotional difficulties  Behavioral disorders (e.g., ADD, ADHD, Asperger syndrome, autism)  Bleeding disorders  Fainting spells  Thyroid disease  Kidney disease  Sickle cell disease  Seizures Last seizure:	Use CPAP: Yes □ No		have I had di check Yes	been risease, the bo	eceived within the last 10 years put "D" and the year. If immunize ax and the year received.  Date  Tetanus Pertussis Diphtheria Measles Mumps Rubella Polio Chicken pox Hepatitis A Hepatitis B Influenza
		Lung/respiratory disease  Ear/sinus problems  Muscular/skeletal condition  Menstrual problems (women only)  Psychiatric/psychological and emotional difficulties  Behavioral disorders (e.g., ADD, ADHD, Asperger syndrome, autism)  Bleeding disorders  Fainting spells  Thyroid disease  Kidney disease  Sickle cell disease  Seizures Last seizure:  Sleep disorders (e.g., sleep apnea)  Abdominal/digestive problems  Surgery	Use CPAP: Yes □ No		have I had di check Yes	been risease, the bo	eceived within the last 10 years put "D" and the year. If immunize px and the year received.  Date  Tetanus Pertussis Diphtheria Measles Mumps Rubella Polio Chicken pox Hepatitis A Hepatitis B Influenza Other (i.e., HIB)
		Lung/respiratory disease  Ear/sinus problems  Muscular/skeletal condition  Menstrual problems (women only)  Psychiatric/psychological and emotional difficulties  Behavioral disorders (e.g., ADD, ADHD, Asperger syndrome, autism)  Bleeding disorders  Fainting spells  Thyroid disease  Kidney disease  Sickle cell disease  Seizures Last seizure:  Sleep disorders (e.g., sleep apnea)  Abdominal/digestive problems	Use CPAP: Yes □ No		have I had di check Yes	been risease, the bo	eceived within the last 10 years put "D" and the year. If immunize ax and the year received.  Date  Tetanus Pertussis Diphtheria Measles Mumps Rubella Polio Chicken pox Hepatitis A Hepatitis B Influenza

if they are for occasional or emergency use only.

Medication Frequency Approximate date started Reason for medication	Medication Frequency Approximate date started Reason for medication	Medication Frequency Approximate date started Reason for medication
Medication Strength Frequency Approximate date started Reason for medication	Medication Frequency Approximate date started Reason for medication	Medication Frequency Approximate date started Reason for medication

Administration of the above medications is approved by (if required by your state): \_

Parent/guardian signature and/or MD/DO, NP, or PA signature

# Part B

# INFORMED CONSENT AND HOLD HARMLESS/RELEASE AGREEMENT

High-adventure base participants:				
Expedition/crew No.:				
or staff position:				

I understand that participation in Scouting activities involves a certain degree of risk and can be physically, mentally, and emotionally demanding. I also understand that participation in these activities is entirely voluntary and requires participants to abide by applicable rules and standards of conduct.

In case of an emergency involving me or my child, I understand that every effort will be made to contact the individual listed as the emergency contact person. In the event that this person cannot be reached, permission is hereby given to the medical provider

Part B	Full name:		DOB:
	Health and Medical Record is valid		
		(if participant is under the age of 18)	
•	_		
•			Date
	•		
If I am partion understand that the part	cipating at Philmont, Philmont Traithe risk advisories explained in Participant will not be allowed to particient has permission to engage in all	ining Center, Northern Tier, or Florida D, including height and weight requirem pate in applicable high-adventure progra high-adventure activities described, exce	nents and restrictions, and understand ms if those requirements are not met.
	d that, if any information I/we have pation in any event or activity.	provided is found to be inaccurate, it may	limit and/or eliminate the opportunity
3. Name			
1. Name	·		
	authorized to take youth to and from e		
		Telephone	
	signate at least one adult. Please include	e a telephone number. Telephone	
	RIZED TO TAKE YOUTH TO AND FROM EVENTS		
☐ Yes ☐ N		n.	
film/videotap and I specific	pes/electronic representations and/or s cally waive any right to any compensat	t, exhibit, broadcast, electronic storage, and cound recordings without limitation at the dis- tion I may have for any of the foregoing.	
film/videotap release the E organizations	bes/electronic representations and/or s Boy Scouts of America, the local counc s associated with the activity from any	e Boy Scouts of America the right and permis sound recordings made of me or my child at bil, the activity coordinators, and all employe and all liability from such use and publication	all Scouting activities, and I hereby sees, volunteers, related parties, or other on.
TALENT RELEA	SE AGREEMENT		
organizations  ☐ Without re		and all claims or liability arising out of this p	participation.
I release the	Boy Scouts of America, the local coun	ncil, the activity coordinators, and all employ	
the sharing c		ve consent for myself and/or my child to pa A volunteers and professionals who need to ng of Scouting activities.	
medication for medical staff Protected He Health Inforn and treatmer	or me or my child. Medical providers a f, camp management, and/or any physealth Information/Confidential Health Innation, 45 C.F.R. §§160.103, 164.501, and provided for purposes of medical ev	oper treatment, including hospitalization, and authorized to disclose protected health in ician or health care provider involved in pronoformation (PHI/CHI) under the Standards for etc. seq., as amended from time to time, including alluation of the participant, follow-up and coarticipant's ability to continue in the program	information to the adult in charge, camp viding medical care to the participant. or Privacy of Individually Identifiable cludes examination findings, test results, ommunication with the participant's

				High-adventu					
D1 0									-
			E PROVIDER (Cer			-	•		
•	•		al has no contraindicat			• .		ıls who will be attend	ing a
	-		nigh-adventure bases,	please refer to P	art D for add	itional intor	mation.		
•		me. 🗆 Yes 🗅	NO)						
PHYSICAL EXAM	INATION								
Height (inches)		Weight (pounds)	Maxi	mum weight for l	height	Meets	s height/weight lim	its □ Yes □ No	
			se						
away from an e and/or camp, p health-care pro	emergency vel participation o ovider is deteri for this deter	hicle-accessible f an individual ex mined to be 20 p mination.) Please	as explained on this roadway, you will not ceeding the maximun percent or less for a fe e call the event leader	be allowed to p n weight for heig male or 15 perce	earticipate. A ght may be a ent or less fo	at the discre allowed if the or a male. (F	tion of the medica e body fat percent Philmont requires a	al advisors of the eve tage measured by the a water-displacement	nt e t
	Normal	Abnormal	Explain Any Abnormalities	Range of	Mobility	Normal	Abnormal	Explain Any Abnormalities	
Eyes				Knees (both)	)				
Ears		1		Ankles (both					
Nose				Spine	,				
Throat		+		Орите					
		+		$\dashv$					
Lungs								1	
Neurological				Oth	er	Yes	No	1	
Heart				Contacts				1	
Abdomen				Dentures				1	
Genitalia				Braces					
Skin				Inguinal herr				Explain	
Emotional adjustment				Medical equi (i.e., CPAP, o	ipment xvaen)			1	
	B) skin test (if	f required by you	r state for BSA camp		gative $\square$ P	ositive			
`			tment):						
And gies (to with	at agont, typo	or reaction, trea							
Restrictions (i	f none, so sta	te)							
EVALUEDIO.	OFPTIFICA	<b>TION</b>			Т_	<del></del>			
EXAMINER'S Logratify that I have	-	-	d examined this person	Height (inches)	Recomn Weight		Allowable Exception	Maximum Acceptance	
			a Scouting experience.	-		38	139-166	166	
This participant			0 1	61	101-	143	144-172	172	
• Meets height/v	0 1			62	104-	148	149-178	178	
			ma, or hypertension teletal problems, or	63	107-		153-183	183	
			possesses a letter of	64	111-157		158-189	189	
•	0 ,		reating physician	65 66	114-162 118-167		163-195 168-201	195	
<ul> <li>Has no uncont</li> </ul>				67	121-		173-207	207	
<ul> <li>Has had no se</li> <li>Does not have</li> </ul>		,		68	125-		179-214	214	
<ul><li>Does not have</li><li>If less than 18</li></ul>			scuba dive, does not	69	129-	185	186-220	220	
have diabetes,				70	132-	188	189-226	226	
•	•			71	136-	194	195-233	233	
				72	140-		200-239	239	
Address				73	144-2		206-246	246	
City state zin				74 75	148-2		211-252 217-260	252 260	
ony, state, zip _				76	156-2		223-267	267	
Office phone				77	160-2		229-274	274	
Signatura				78	164-2		235-281	281	
oignature				79 & over	170-2	240	241-295	295	
Date							Guidelines for Americ		
				Dept. of Agricul	ture and the [	ept. of Healt	h & Human Services	<u>.                                      </u>	
DEVIEW FOR C:	MD OD ODEO	A ACTIVITY	DO NOT	WRITE IN TH	IIS BOX				
REVIEW FOR CA Reviewed by	IVIP OR SPECIA	AL ACTIVITY					Date		
Further approval	required 🖵 Yes	s 🗆 No Reason							
Ву							Date		
Part C	Full nam	ne:				DO	B:	680-	-001

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#### Part D

Participation at any of the BSA's high-adventure bases can be physically, mentally, and emotionally demanding. To be better prepared, each participant must complete the following before attending any high-adventure base:

- Fill in parts A and B of the Annual Health and Medical Record.
- Share Part D with the examining health-care provider.
- Have a physical exam by a certified and licensed health care provider/physician (MD, DO), nurse practitioner, or physician assistant, and have part C completed.
- Read the following information, which focuses on specific risks at the high-adventure base you will be attending.

**The Trek Experience.** Each high-adventure base offers a unique experience that is not risk-free. Knowledgeable staff will instruct all participants in safety measures to be followed. Be prepared to listen to and carefully follow these safety measures and to accept responsibility for the health and safety of yourself and others.

**Philmont.** Each participant must be able to carry a 35- to 50-pound pack while hiking 5 to 12 miles per day in an isolated mountain wilderness ranging from 6,500 to 12,500 feet in elevation. Summer/autumn climatic conditions include temperatures from 30 to 90 degrees, low humidity (10 to 30 percent), and frequent, sometimes severe, afternoon thunderstorms. Activities include horseback riding, rock climbing and rappelling, challenge events, pole climbing, black powder shooting, 12-gauge trap shooting, .30-06 shooting, trail building, mountain biking, and other activities that have potential for injury.

Winter climatic conditions can range from -20 to 60 degrees. For the Kanik Experience, each person will walk, ski, or snowshoe along snow-covered trails pulling loaded toboggans or sleds for up to 3 miles, or more on a cross-country ski trek. Refer to the Philmont Scout Ranch website for specific information.

**Northern Tier.** Each person must be able to carry a 50- to 85-pound pack or canoe from a quarter-mile to 2 miles several times a day on rough, swampy, and rocky portages and paddle 10 to 15 miles per day, often against a headwind. Climatic conditions can range from 30 to 100 degrees in summer/autumn and from -40 to 40 degrees in the winter. For the Okpik Experience, each person will walk, ski, or snowshoe along snow-covered trails or across frozen lakes, pulling loaded toboggans or sleds for up to 3 miles, or more if on a cross-country ski trek. Refer to the Northern Tier website for specific information.

**Florida Sea Base.** Climatic conditions at Florida Sea Base include temperatures ranging from 50 to 95 degrees, high humidity, heat index reaching to 110 degrees, and frequent, sometimes severe, afternoon thunderstorms. Activities include snorkeling, scuba diving, kayaking, canoeing, sailing, hiking, and other activities that have potential for injury. Refer to the Sea Base website for specific information.

**Risk Advisory.** All of the high-adventure bases have excellent health and safety records and strive to minimize risks to participants and advisors by emphasizing appropriate safety precautions. Because most participants are prepared, are conscious of risks, and take safety precautions, they do not experience injuries. If you decide to attend Philmont, Northern Tier, or Florida Sea Base, you should be physically fit, have proper clothing and equipment, and be willing to follow instructions, work as a team with your crew, and take responsibility for your own health and safety.

Parents, guardians, and participants in any high-adventure program are advised that journeying to and from these bases can involve exposure to accidents, illness, and/or injury.

High-adventure staff members have been trained in first aid, CPR, and accident prevention and are prepared to assist the adult advisor in recognizing, reacting to, and responding to accidents, injuries, and illnesses as needed. Each crew is required to have at least one member trained in wilderness first aid and CPR. Medical and search-and-rescue services are provided in response to an accident or emergency. However, response times can be affected by location, terrain, weather, or other emergencies and could be delayed for hours or even days in a wilderness setting.

**Philmont.** Participants and guests for Philmont activities that are conducted with limited access to the backcountry, including most Philmont Training Center conferences and family programs, should review Part D to understand potential health risks inherent at 6,700 feet in elevation in a dry Southwest environment.

High elevation; physically demanding high-adventure program in remote mountainous areas; camping while being exposed to occasional severe weather conditions such as lightning, hail, flash floods, and heat; and other potential problems, including injuries from tripping and falling, falls from horses, heat exhaustion, and motor vehicle accidents, can worsen underlying medical conditions. Philmont's trails are steep and rocky. Wild animals such as bears, rattlesnakes, and mountain lions are native and usually present little danger if proper precautions are taken. Please call Philmont (575-376-2281) if you have any questions.

**Northern Tier.** While participating in Northern Tier's canoeing and camping wilderness areas, life jackets must be worn at all times when on the water. Crew members travel together at all times. Emergency communications via radio, and in more remote locations by satellite phone, are provided by Northern Tier. Radio communication and/ or emergency evacuation can be hampered by weather, terrain, distance, equipment malfunction, and other factors, and are not a substitute for taking appropriate precautions and having adequate first-aid knowledge and equipment. Please call Northern Tier (218-365-4811) if you have any questions.

**Florida Sea Base.** Several activities are offered, including snorkeling, sailing, camping, kayaking, canoeing, swimming, fishing, and scuba diving. Diving is an exciting and demanding activity. When performed correctly, it is very safe. When established safety procedures are not followed, however, there are extreme dangers. All participants will 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, so participants must be instructed to use the equipment safely under direct supervision of a qualified instructor.

To scuba dive safely, participants must not be extremely overweight or in poor physical condition. Diving can be strenuous under certain conditions. Participants' 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, or a severe medical problem, or who is under the influence of alcohol or drugs, should not dive. If taking medication, participants should consult a doctor and the instructor before participation in this program. If there is a question about the advisability of participation, contact the family physician first, then call the Sea Base at 305-664-4173. The Sea Base health supervisor reserves the right to make medical decisions regarding the participation of individual at Sea Base.

**Food.** Each base offers food appropriate for the experience. If a participant has a problem with the diet described in the participant guide, please contact the high-adventure base you are considering attending.

**Medications.** Each participant who has a condition requiring medication should bring an appropriate supply for the duration of the trip. Consider bringing duplicate or even triplicate supplies of vital medications. People with allergies that have resulted in severe reactions or anaphylaxis must bring with them an EpiPen that has not expired.

**Immunizations.** Each participant must have received a tetanus immunization within the last 10 years. Recognition will be given to the rights of those Scouts and Scouters who do not have immunizations because of philosophical, political, or religious beliefs. In such a situation, the *Immunization Exemption Request* form is required.

**Recommendations Regarding Chronic Illnesses.** Each base requires that this information be shared with the parents or guardians and examining physician of every participant. There are no facilities for extended care or treatment; therefore participants who cannot meet these requirements will be sent home at their expense.

Staff and/or staff physicians reserve the right to deny the participation of any individual on the basis of a physical examination and/or medical history.

Adults or youth who have had any of the following conditions should undergo a thorough evaluation by a physician before considering participation at a BSA high-adventure base.

# Cardiac or Cardiovascular Disease, including:

- 1. Angina (chest pain caused by blocked blood vessels or coming from the heart)
- 2. Myocardial infarction (heart attack)
- 3. Heart surgery or heart catheterization (including angioplasty to treat blocked blood vessels, balloon dilation, or stents)
- 4. Stroke or transient ischemic attacks (TIAs)
- 5. Claudication (leg pain with exercise, caused by hardening of the arteries)
- 6. Family history of heart disease or a family member who died unexpectedly before age 50
- 7. Diabetes
- 8. Smoking
- 9. Excessive weight

Youth who have a congenital heart disease or an acquired heart disease such as rheumatic fever, Kawasaki's disease, or mitral valve prolapse should undergo thorough evaluation by a physician before considering participating at a high-adenture base. The physical exertion at any of the high-adventure bases may precipitate either a heart attack or stroke in susceptible persons. Participants with a history of any of the first seven conditions listed above should have a physician-supervised stress test. More extensive testing (e.g., nuclear stress test) is recommended for participants who have coronary heart disease. Even if the stress test results are normal, the results of testing done at lower elevations, without backpacks, do not guarantee safety. If the test results are abnormal, the individual is advised not to participate.

Hypertension (High Blood Pressure). The combination of physical, mental, and emotional stress, increased exertion and/or heat, and altitude appears to cause a significant increase in blood pressure in some individuals. Occasionally, hypertension reaches such a level that it is no longer safe to engage in strenuous activity. Hypertension can increase the risk of having a stroke, heart attack, or angina. Participants should have a normal blood pressure (less than 140/90). Persons with significant hypertension (greater than 140/90) should be treated and controlled before attending any high-adventure base, and should continue on medications while participating. The goal of treatment should be to lower the blood pressure to normal. Participants already on antihypertensive therapy with normal blood pressure should continue on medications. Individuals taking diuretics to treat hypertension are at increased risk for dehydration related to strenuous physical activity and should be careful to maintain good hydration during the trek.

Philmont. Each participant who is 18 years of age or older will have his or her blood pressure checked at Philmont. Those individuals with a blood pressure consistently greater than 160/100 at Philmont may be kept off the trail until their blood pressure decreases.

**Florida Sea Base.** Those taking beta-blocker medication should consider a change of medication before participating in any scuba program.

<u>Insulin-Dependent Diabetes Mellitus.</u> Exercise and the type of food eaten affect insulin requirements. Any individual with insulin-dependent diabetes mellitus should be able to monitor personal blood glucose and to know how to adjust insulin doses based on these factors. The person with diabetes also should know how to give a self-injection. Both the person with diabetes and one other person in the group should be able to recognize indications of excessively high blood sugar (hyperglycemia or diabetic ketoacidosis) and excessively low blood sugar (hypoglycemia). The person with diabetes and one other individual should know the appropriate initial responses for these conditions. An insulin-dependent

person who has been newly diagnosed (within the last six months) or who has undergone a change in delivery system (e.g., insulin pump) in the last six months should not attempt to participate. A person with diabetes who has had frequent hospitalizations for diabetic ketoacidosis or who has had frequent problems with hypoglycemia should not participate until better control of the diabetes has been achieved.

**Philmont.** It is recommended that the person with diabetes and one other individual carry insulin on the trek (in case of accident) and that a third vial be kept at the Health Lodge for backup. Bring insulin in a small insulated container. Bring enough testing equipment and supplies for the entire trip and trek. Extras are usually needed. If an individual has been hospitalized for diabetes-related illnesses within the past year, the individual must obtain permission to participate by contacting the Philmont Health Lodge at 575-376-2281.

**Florida Sea Base.** Persons with diabetes who are 18 years of age or older who wish to scuba dive should be assessed by a physician familiar with both hyperbaric issues related to diabetes and medications used for the control and treatment of diabetes. Persons 18 years old or older who are determined to be candidates for scuba diving must submit four hemoglobin A1c (HbA1c) tests, each with HbA1c values less than 7, taken within the previous 12 months. Any test within the past 12 months with an HbA1c value greater than 7 disqualifies a person from scuba diving as part of a BSA activity.

Persons less than 18 years of age with Type 1 diabetes will not be allowed to scuba dive. Persons under the age of 18 who control their diabetes with exercise and diet (no medications) and can provide three sequential hemoglobin tests with HbA1c values less than 6 may be approved to scuba dive.

<u>Seizures (Epilepsy).</u> A seizure disorder or epilepsy does not exclude an individual from participating at a high-adventure base. However, the seizure disorder should be well-controlled by medications. A minimum one year seizure-free period is considered to be adequate control. Exceptions to this guideline may be considered on an individual basis, and will be based on the specific type of seizure and the likely risks to the individual and to other members of the crew.

**Florida Sea Base.** Any seizure activity within the past five years, regardless of control and/or medication, disqualifies an individual from participation in any scuba program. A person with a history of seizure activity who has been asymptomatic AND medication-free for five years, as evidenced by a physician, will be allowed to dive.

Asthma. Asthma should be well-controlled before participating at any high-adventure base. Well-controlled asthma means: 1) the use of a rescue inhaler (e.g., albuterol) less than once daily; 2) no need for nighttime treatment with a rescue inhaler (e.g., albuterol). Well-controlled asthma may include the use of long-acting bronchodilators, inhaled steroids, or oral medications such as Singulair. You must meet these guidelines in order to participate. You will not be allowed to participate if: 1) you have exercise asthma not prevented by medications; or 2) you have been hospitalized or have gone to the emergency room to treat asthma in the past six months; or 3) you have needed treatment with intravenous, intramuscular, or oral steroids (prednisone) in the past six months. You must bring an ample supply of your medications and a spare rescue inhaler that are not expired. At least one other member of the crew should know how to recognize signs of worsening asthma or an asthma attack, and should know how to use the rescue inhaler. Any person who has needed treatment for asthma in the past three years must carry a rescue inhaler on the trek. If you do not bring a rescue inhaler, you must buy one before you will be allowed to participate.

**Florida Sea Base.** Persons being treated for asthma (including reactive airway disease) are disqualified from BSA scuba programs. Persons with a history of asthma who have been asymptomatic and have not used medications to control asthma for five years or more may be allowed to scuba dive as part of a BSA activity upon submission of evidence from their treating physician. Persons with a history of asthma who have been asymptomatic and have not used medication to control asthma for less than five years may be allowed to scuba dive as part of a BSA activity upon submission of a methacholine challenge test showing the asthma to be resolved.

<u>Allergy or Anaphylaxis.</u> Persons who have had an **anaphylactic reaction** from any cause must contact the high-adventure base before arrival. If you are allowed to participate, you will be required to have appropriate treatment with you. You and at least one other member of your crew must know how to give the treatment. If you do not bring appropriate treatment with you, you will be required to buy it before you will be allowed to participate.

Recent Musculoskeletal Injuries and Orthopedic Surgery. Every participant will put a great deal of strain on feet, ankles, and knees due to negotiating steep, rocky trails with a backpack; paddling and portaging heavy gear over irregular terrain; or climbing into and out of a boat. Therefore, individuals with significant musculoskeletal problems (including back problems) or orthopedic surgery/injuries within the last 6 months must have a letter of clearance from their orthopedic surgeon or treating physician to be considered for approval to participate. Permission is not guaranteed. A person with a cast on any extremity may participate only if approved by the high-adventure base. Ingrown toenails are a common problem and must be treated 30 days prior to arrival.

<u>Psychological and Emotional Difficulties.</u> A psychological disorder does not necessarily exclude an individual from participation. Parents and advisers should be aware that no high-adventure experience is designed to assist participants in overcoming psychological or emotional problems. Experience demonstrates that these problems frequently become magnified, not lessened, when a participant is subjected to the physical and mental challenges of a remote wilderness setting. Any condition should be well-controlled without the services of a mental health practitioner. Under no circumstance should medication be stopped immediately prior to participation, and medication should be continued throughout the entire high-adventure experience. Participants requiring medication must bring an appropriate supply for the duration of the trip.

**Weight Limits.** Weight limit guidelines are used because overweight individuals are at a greater risk for heart disease, high blood pressure, stroke, altitude illness, sleep problems, and injury. Those who fall within the limits are more likely to have an enjoyable trek and avoid incurring health risks.

**Philmont.** Each participant in a Philmont trek must not exceed the maximum acceptable limit in the weight chart shown below. The right-hand column shows the maximum acceptable weight for a person's height in order to participate in a Philmont trek.

Participants 21 years and older who exceed the maximum acceptable weight limit for their height at the Philmont medical recheck WILL NOT be permitted to backpack or hike at Philmont. They will be sent home. For example, a person 70 inches tall cannot weigh more than 226 pounds. All heights and weights will be measured in stocking feet.

For participants under 21 years of age who exceed the maximum acceptable weight for height, the Philmont physicians will use their best professional judgment in determining participation in a Philmont trek. Philmont will consider up to 20 pounds over the maximum acceptable as stated on the chart; however exceptions are not made automatically, and discussion in advance with Philmont is required regarding any exception to the weight limit for persons under 21 years of age. Philmont's telephone number is 575-376-2281.

Under no circumstances will any individual weighing more than 295 pounds be permitted to participate in backcountry programs. This requirement is necessary due to rescue equipment restrictions and for the safety of search-and-rescue personnel.

The maximum weight for any participant in a Cavalcade Trek and for horse rides is 200 pounds.

Participants and guests in Philmont activities, including most Philmont Training Center conference and family programs, who *will* participate in limited backcountry access during their visit must not exceed the maximum acceptable limit in the weight chart.

**Northern Tier.** Each participant in a Northern Tier expedition should not exceed the maximum acceptable weight for height in the table shown on the Annual Health and Medical Record form. Those who fall within the recommended weight limits are much more likely to have an enjoyable trek and avoid incurring injuries and health risks. Extra weight puts strain on the back, joints, and feet. The portage trails can be very muddy, slippery, and rocky, and present a potential for tripping and falling. We also strongly recommend that no participant be less than 100 pounds in weight. Extremely small participants will have a very difficult time carrying canoes and heavy packs.

Canoes' loads are another important reason to limit participant weight. Northern Tier assigns three people to a canoe. The total participant load per canoe must not exceed 600 pounds, or an average of 200 pounds per participant. Northern Tier does not permit individuals exceeding 295 pounds to participate in high-adventure programs.

**Florida Sea Base.** Any participant or advisor who exceeds the maximum weight limits on the weight chart may want to reconsider participation in a Sea Base high-adventure program. Anyone who exceeds these limits is at extreme risk for health problems. Participants who fall within the guidelines are more likely to have an enjoyable program and avoid incurring health risks. The absolute weight limit for our programs is 295 pounds.

Height (inches)	Recommended Weight (lbs)	Allowable Exception	Maximum Acceptance
60	97-138	139-166	166
61	101-143	144-172	172
62	104-148	149-178	178
63	107-152	153-183	183
64	111-157	158-189	189
65	114-162	163-195	195
66	118-167	168-201	201
67	121-172	173-207	207
68	125-178	179-214	214
69	129-185	186-220	220

Height (inches)	Recommended Weight (lbs)	Allowable Exception	Maximum Acceptance
70	132-188	189-226	226
71	136-194	195-233	233
72	140-199	200-239	239
73	144-205	206-246	246
74	148-210	211-252	252
75	152-216	217-260	260
76	156-222	223-267	267
77	160-228	229-274	274
78	164-234	235-281	281
79 & over	170-240	241-295	295

This table is based on the revised Dietary Guidelines for Americans from the U.S. Dept. of Agriculture and the Dept. of Health & Human Services.







# 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

	the scuba training program offered	out of condition. Diving can be strenuous under certain conditions. Yo respiratory and circulatory systems must be in good health. All body a
by	and	spaces must be normal and healthy. A person with coronary disease,
	located in the	current cold or congestion, epilepsy, a severe medical problem or who under the influence of alcohol or drugs should not dive. If you have asthma, heart disease, other chronic medical conditions or you are talling medications on a regular basis, you should consult your doctor an
city of	, state/province of	the instructor before participating in this program, and on a regular ba thereafter upon completion. You will also learn from the instructor the
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		important safety rules regarding breathing and equalization while scut diving. Improper use of scuba equipment can result in serious injury. You must be thoroughly instructed in its use under direct supervision 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 you instructor before signing.
	edical Questionnaire	
To the Participar	nt:	
The purpose of this M	edical Questionnaire is to find out if you should be exam-	Please answer the following questions on your past or present medical history

ined 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.

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,

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.

to you scuba and G	YES or NO. If you are not sure, answer YES. If any of these items apply, we must request that you consult with a physician prior to participating in diving. Your instructor will supply you with an RSTC Medical Statement uidelines for Recreational Scuba Diver's Physical Examination to take to hysician.
	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

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

years?

#### STUDENT

# Please print legibly. \_\_\_\_\_ Age \_\_\_\_ Birth Date \_\_ Name Mailing Address \_\_\_\_\_ State/Province/Region Country Zip/Postal Code ) Home Phone ( Business Phone ( FAX Email Name and address of your family physician Clinic/Hospital Physician Address Date of last physical examination \_\_\_\_\_ Name of examiner\_\_\_\_\_\_ Clinic/Hospital\_\_\_\_\_ Address \_\_\_\_\_ Email \_ Phone ( 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 Physician\_\_\_\_\_ Clinic/Hospital\_\_\_\_ Address \_\_\_\_\_ Email Phone (

# **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 EXAMINA-

**TION** 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
- Polvcvthemia 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.

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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- Divers Alert Network (DAN) United States, 6 West Colony Place, Durham, NC <u>www.DiversAlertNetwork.org</u>
- 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
- Divers Alert Network S.E.A.P., P. O. Box 384, Ashburton, Australia, telephone 61-3-9886-9166
- Divers Emergency Service, Australia, <u>www.rah.sa.gov.au/hyper-baric</u>, telephone 61-8-8212-9242
- South Pacific Underwater Medicine Society (SPUMS), P.O. Box 190, Red Hill South, Victoria, Australia, <u>www.spums.org.au</u>
- 16. European Underwater and Baromedical Society, www.eubs.org

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