

# A REPRINT ARTICLE FROM



# GRAND SLAM CLUB/OVIS

*HIGH ALTITUDE REPORT  
From OVIS #1 (Summer 1997)*

You will remember that **Bob Patton** and his **Can-Asia Expeditions** were mentioned earlier, and you saw his advertisement. He also sent an informative article that he wrote especially for this edition of *OVIS*. Bob is a pharmacist, as am I, and even though he sold his drug store and no longer practices pharmacy, he at least does have a background for such an article. A word of warning before you read the article: Do not fear altitude sickness, but simply know about it. Because of fear, you might never try for the blue sheep or a Marco Polo. That would be a shame, because of a lost hunt of a lifetime. This article is included here to help and educate, not cause fear. Enjoy!

## *HIGH ALTITUDE HUNTING* *by Bob Patton*

When you go on your first mountain hunt, you either return home quite positive that you will never do that again, or within two or three weeks you will start plotting and planning for your next trip. The situation quickly evolves to the point where you are or are not a mountain hunter. This article is dedicated to the mountain hunters of our world.

Quite often, the first animal hunted in the mountains of North America is the dall sheep. After that, the hunter soon realizes that there are also stone sheep and the bighorns (California, desert, and Rocky Mtn.), and there is something called a Grand Slam of sheep. Then one becomes aware that there are other mountains in the world and many other species of sheep. There are European mouflon, the urials of central Asia, the Siberian snow sheep, and the argalis of Mongolia, China, and Russia. Most of these animals are hunted below 10,000 feet. The main exception is the argali sheep, which occupy relatively high country. Their habitat is not necessarily steep and dangerous to climb, as is the home country of our North American goat, or that of the ibex and markor, but there is a danger associated especially with the argali hunting which I would like to discuss.

In Mongolia, the Gobi argali is hunted from 6,000 to 8,000 feet, and the Altai argali is found from 9,000 to 11,000 feet, but some of the other argalis are hunted from 13,000 to 17,000 feet, and by being at these higher altitudes the hunter is exposed to some serious problems and/or life-threatening situations. Beginning at about 8,000 feet, the oxygen we require to fuel our bodies quickly becomes more difficult to utilize. There are three associated illnesses: acute mountain sickness (AMS), high altitude pulmonary edema (HAPE), and high altitude cerebral edema (HACE). They are intertwined and lead from one to the other, and any high altitude hunter must understand them.

I experienced first hand the problems of AMS on a December trip into the Russian Pamirs north of Afghanistan. It is a serious situation, and you should prepare yourself by reading everything available on the subject. In the camp I was in:

- (1) An Austrian hunter had died of HAPE on his third day in camp two years before.
- (2) **Lloyd Zeman** was very sick and was flat on his back for almost 10 days.
- (3) I understand that a French hunter died in the Pamirs three months after I was there.

There are several good books and articles available on this subject, and I will list them for you later. Meanwhile, my scenario was this:

DAY 1: Landed in Dushambe, Tajikistan, at 3,500 feet; took jeep over 10,000-foot pass, then down to approximately 7,000 feet for the first night.

DAY 2: Crew drove jeep to camp at about 15,000 feet (good camp); I got out of jeep and was very weak and short of breath. Very soon, I had a headache and took buffered aspirin (and antacids, as I have a sensitive stomach). In the future, I would personally use only acetaminophen (Tylenol®), as it is easier on the stomach, or, if possible, nothing for the headache.

DAY 3 & 4: Headaches got very bad, and I had an upset stomach and nausea. I had no energy and stayed in camp, mostly in bed.

DAY 5: Vomiting and diarrhea, and my lungs were becoming congested. I started taking dexamethasone, which is used to help prevent cerebral edema (fluid and inflammation in the brain). I also started taking 40mg of furosemide three times a day (this is the diuretic recommended by the Canadian Merck Manual for HAPE). NOTE: I do not think the furosemide was of any use, and in subsequent trips into Tibet I have taken one Diamox® 250mg tablet each day, starting three days before I reached altitude (12,800 feet for camp, and hunted up to 15,300 feet), also while in the camps, and for two days after descending. I had no more trouble. (On Day 5, I also started taking a high dosage of amoxicillin to hopefully prevent infection in the lungs.)

DAY 6: My lungs started to gurgle and rattle. The local doctor was called in, and he drove me out of camp, over the pass, and to a “resort” at 10,000 feet. I soon felt better with the air at that level, and recovered quite quickly. In three days I went back for another attempt, and managed to take a very small Marco Polo ram. At the 15,000-foot level, my legs quickly became heavy and rubbery, and it was very difficult to walk very far.

For me, the AMS was a problem. Since then, using Diamox® and Roloids®, in Tibet I have had no problem. I have been told that the air in the Pamirs has less oxygen content than at similar altitudes elsewhere because of the complete lack of green shrubs and trees for many, many miles (no oxygen-carbon dioxide reversal possible). I understand that the air in Kyrgyzstan is not as rarified as in the Pamirs.

AMS is characterized by headaches and listlessness (tired and no energy), nausea (or vomiting, if severe), inability to sleep well, poor appetite, and shortness of breath. AMS can be mild, moderate, or severe. The mild and moderate forms can resolve themselves with a few days of rest, but one must be very careful to be aware of a deterioration which could quickly evolve into the serious, life-threatening, severe AMS. The severe form’s symptoms are lack of balance and coordination, and altered mental outlook with confusion and disorientation. We have all heard of the “denial” problems associated with a heart attack.

HAPE is caused by the lack of oxygen in the air, and high blood pressure in the arteries in the lungs. This person has a very difficult time breathing, and is unable to exert himself properly. The breathlessness becomes more serious, combines with weakness, rapid pulse, coughing, and cyanosis (blueish color of skin, especially the lips and bases of the fingernails). The lungs may start to crackle, rattle, or gurgle, and there may be congestion and tightness in the chest. This is serious, and can be fatal, even with appropriate treatment.

HACE is caused by fluid in the brain. The earliest symptom is loss of balance or muscle coordination. The listlessness or severe lassitude may quickly advance to a coma and to death.

Several months before you depart, arrange a medical examination complete with blood chemistry analyses, ECG, and a stress test. Read everything you can about AMS and understand what you must be aware of. If possible, attend one of **Peter Kummerfeldt**’s fine seminars on “High Altitude Hunting” and “Survival Truths.” He has lectured at the FNAWS Conventions, and some of his suggestions include:

- Nifedipine, an antihypertensive drug that has been found to be effective in preventing the high arterial pressure which forces fluid (blood) through the tissues in the lungs to cause bleeding. Discuss its use with your specialist.

- Roloids®: Take 8-10 tablets per day while at altitude, to reduce acidity to keep your ph balance correct (or use soda bicarbonate).

- Lots and lots of water should be taken to prevent dehydration, which is one of the major problems encountered both at high altitude and in hypothermia.

- Eat lots of carbohydrates (pasta).

To prevent these problems, the main approach is to stage your arrival at altitude by spending several days en route and ASCENDING SLOWLY. I cannot emphasize this enough. By the time most of us are financially fit enough to go on these expeditions, we may have “topped out” physically and be on that slow downhill slide, which we all try to flatten out as much as possible. Even the young and very physically fit can and do succumb to these illnesses. Always check your urine, and if it starts to darken in color, you need lots more water. Once you arrive in the hunting camp, plan to rest and do nothing for 24 hours. You should discuss the use of Diamox® tablets with your physician or internist, as they require a prescription and his approval. I would suggest the following:

A. Allow for a lot of extra time to acclimatize (two or three days at least, at the 10,000-foot level; this could be money that is well-spent), and for scheduling problems and weather, broken jeeps, etc. Arrange an extra two or three weeks on your visas, and tell your family and friends you will be back when you are successful.

B. Be prepared to forget about hunting and get out and descend 2,000 to 3,000 feet at the first real sign of trouble.

C. Insist that your crew does not smoke in the jeep or in your tent. Tell them right off that your lungs are not very good, and that you require good air even at home.

For reading:

*Altitude Illness* by **S. Bezruchka**. Carry it with you!

*Medicine for Mountaineering* by **J. A. Wilkerson**. Bigger and heavier, but excellent for overall comprehension.

These and others are available from **Chinook Medical Gear Inc.** of Eagle, Colorado (1-800-766-1365). Chinook can also supply a “gamow bag.” This item weighs about 14 pounds, and by increasing the air pressure around a subject it simulates descent of as much as 7,000 feet. If you do run into a serious problem at altitude, you can use medicines, gamow bags, oxygen tanks, etc., BUT the #1 priority is to immediately descend to a lower altitude just as quickly as possible. This you and your companions should all understand. In addition to the sources listed above, **Dr. D. Yajko** wrote a fine article on AMS in the Jan/Feb 1991 issue of *SAFARI* magazine.

Quite a few “flatlanders” can and do go into the very high country with only minimum transient discomfort. I know of one gentleman in Tibet who was at about 15,300 feet in blue sheep country. He ran 70 to 80 yards, climbed 25 yards, flopped onto his belly, and put two shots into a running sheep at 125 yards... and celebrated his 80th birthday the same week! The valleys and the hills in the Pamirs are very beautiful; high country, clear blue skies, three or four inches of snow on the ground. The Himalayas are also very pretty. On that first trip, I was very sick and spent quite a few nights flat on my back, trying to breathe and wondering what I was doing there. It is a fascinating and beautiful world, and if you get yourself as physically fit as possible and go there aware of the pitfalls, it is one more area of life that is really worth tramping through. I shall return!

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### HIGH ALTITUDE REPORT

*From OVIS #4 (Winter 1999)*

The following could save your life, or at least make you much more comfortable on a high altitude hunt:

**Bob Patton** ended his article in *OVIS* #1 (Summer 1997) with this:

*For reading more about problems with altitude, you should consider:*

*Altitude Illness* by **S. Bezruchka**. Carry it with you!

*Medicine for Mountaineering* by **J. A. Wilkerson**. Bigger and heavier, but excellent for overall comprehension.

These and others are available from **Chinook Medical Gear Inc.** of Eagle, Colorado (1-800-766-1365). Chinook can also supply a “gamow bag.” This item weighs about 14 pounds, and by increasing the air pressure around a subject it simulates descent of as much as 7,000 feet. In addition to the sources listed above, **Dr. D. Yajko** wrote a fine article on AMS in the Jan/Feb 1991 issue of *SAFARI* magazine.

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Bob mentioned **Chinook Medical Gear**, and here is the president of that company:

***Carl Darnell**, president of Chinook Medical Gear Inc., started the business in 1990. It began with a single product, the Gamow Bag, a portable hyperbaric chamber used to treat people for altitude sickness. Over the years, the business evolved to all kinds of medical gear for the outdoors, then to travel medicine. The company catalog has nine sections including medical kits, survival gear, and specialty sections on high altitude medicine and oxygen equipment and travel medicine.*

*Carl grew up as an Army brat, living mostly in Oklahoma and Germany. He is a pharmacist by training (University of Oklahoma), but is not practicing now. Varied business experience gave him background for beginning his mail order business. He is experienced in many outdoor pursuits, and has traveled widely.*

*This diverse background gives Carl a unique insight into his business of supplying medical gear to a wide variety of people and entities. He has been above 20,000 feet several times, including climbs of Mount McKinley and peaks in Peru and Nepal. His knowledge about high altitude physiology has been helpful to many hunters going to high places in search of trophy animals.*

#### ***Are you prepared to die?***

*Let's look at one of the medical issues you may have to confront, especially in remote parts of third world countries. Altitude illness is in the forefront for many of you going to high elevations. **Bob Patton** wrote an excellent article on this in the first issue of OVIS (Summer 1997). In addition to acute mountain sickness (AMS), high altitude pulmonary edema (HAPE), and high altitude cerebral edema (HACE), which are discussed by Bob, there is another prevalent problem with which I (and many of you) have had first hand experience. That is sleep apnea due to hypoxia (low oxygen level in the blood). It usually occurs during sleep, when our metabolic systems have shut down somewhat from normal daytime levels.*

*There is the same percentage of oxygen (21%) whether you are in San Diego, the Rocky Mountains, or on top of Mount Everest. Hypoxia occurs because there is less oxygen AVAILABLE due to lower atmospheric pressure. (That is why the Gamow Bag is so effective... because it raises the pressure and simulates going down several thousand feet.) In other words, it takes pressure to make oxygen available to us through several anatomical barriers: lungs, capillaries, bloodstream, and cells. Many of us simply do not breathe fast enough or deep enough at night to get the necessary oxygen. The symptoms are dramatic.*

*The first time it happened to me was at 17,500 feet on the north side of Denali (Mount McKinley). After returning from our summit bid and spending a day resting, I became very anxious whenever I attempted to lie back and rest or sleep. It is a subtle physiological occurrence that can make you overwhelmingly uncomfortable. This anxiety can be very disconcerting. You really begin to understand that something you have been taking for granted... oxygen... comes way before food, water, shelter, etc. I spent the longest, coldest night of my life (-40 degrees F) huddled in my tent with this (unknown to me at the time) malady. The next day, I found my salvation... acetazolamide (brand name Diamox®). Simply said, acetazolamide changes the acidity of your blood and makes you involuntarily breathe faster; hence more air, hence more oxygen. It is a miracle drug for sleep apnea and for AMS.*

*Anybody may be susceptible to high altitude problems. In fact, the largest numbers of victims are young, healthy males who are in good physical condition. It can also happen at lower altitudes (8000 feet). Important factors are how high you go, how fast you ascend, whether you are properly hydrated, and that some people are simply predisposed. You might want to consider taking a Gamow Bag along. Some other gear includes a pulse oximeter, which is a handheld, non-invasive diagnostic device that measures your percent oxygen saturation in your arterial blood.*

*I will touch lightly, not due to lack of importance but rather for lack of space, on some other potential dangers:*

- \* *Trauma: i.e., lacerations, fractures, burns - A good medical kit*
- \* *Hypothermia and frostbite - Proper clothing, chemical hand/body warmers*
- \* *Snake and insect bites - Extractor pump*
- \* *Dental problems - Dental emergency kit*
- \* *Sun exposure - Sunblock*
- \* *Traveler's diarrhea - Water filter, chemicals*

*Last but not least: Be smart! Think! Keep your head! And be prepared!*

Now to **Dennis Campbell**: **Bob Patton** and **Carl Darnell** are pharmacists and have a basic overall knowledge of physiology. I am also a pharmacist and have the same concerns... However, I try to keep preparation in perspective, realizing that one can pack more gear than can be loaded on a plane or carried up a mountain. We sheep hunters have to pack light, but each individual must get to a comfort level on how much emergency gear or items are necessary. I pack light, but try to cover as many medical variables as possible. Read as much as you can about high mountain concerns, and make your own decisions from there.

I want to follow up on the sleep apnea situation that Carl touched upon earlier. I have two friends who have had dramatic problems with this. **Hugh Jacks** (AL) experienced a severe case in Colorado a couple of years ago when he was hunting bighorn at around 12,000 feet. He was also camping near that level. His apnea got so bad that he could only sleep in short stints of literally minutes before being shocked back awake, gasping. It was a terrible experience that even lasted one night back down at only 6000 feet. I talked with Hugh about it a lot, and diagnosed the problem as dehydration... WOW, was I wrong.

Prior to our China blue sheep hunt in November 1998, Hugh and I did a lot of research on the apnea, and of course other altitude problems. We decided that with hydration (drinking lots of water) and the addition of Diamox® (generic name is acetazolamide), maybe we could both make it at 16,000 feet in Tibet. You see, I have experienced other altitude problems on several past hunts too. My problems had primarily been headaches and general malaise (just plain feeling tired and washed out).

I wanted to check things out with the Diamox in advance, so began taking it as a trial three weeks before departure. After the first dose I felt really terrible the next day, and for two days more (I quit taking it after one dose). About ten days before departure I decided to try one more time, just in case my earlier symptoms had not been caused by the Diamox. Wow, what a difference! I felt fine, so continued the treatment. I even noticed that I experienced very little change in my urination (Diamox is a diuretic, but more on that later). Things were going so well, and time was short before departure, so I continued.

In China, I experienced absolutely no altitude problems... no headache, and felt great. Hugh did well too, until the third night. We were each taking a 250mg tablet morning and evening. Hugh left off the evening dose, and sure enough the sleep apnea started. Long story short, Hugh did an experiment and corrected his problem. Now we knew the answer! Yes, his problem in Colorado could have been enhanced by dehydration, but Hugh was prone to high altitude sleep apnea. He found that taking 250mg in the morning, 125mg (1/2 tablet) just before bed, and another 125mg upon awaking at 1:00 or 2:00 a.m. for a bathroom trip, completely corrected his problem. We were both happy that he had discovered this.

Diamox is definitely recommended for high altitude trips. The literature on that drug has a wealth of information. Ask your pharmacist for a package insert, and take the time to read it. Is it a diuretic? The answer is yes, but it is extremely mild. I could barely tell any difference in my urination. I normally do not have to get up at night to urinate, and even taking 250mg just prior to bedtime I still did not have to get up.

I mentioned two friends who had the apnea problem... The other is **Sherwin Scott** (AZ). He had a severe case in Tajikistan in 1997 while hunting Marco Polo. He said that by day 10 he had gotten to the place where he could not sleep at all because of the gasping that woke him up every time he closed his eyes. Sherwin said he could not explain how terrible it was because of how long it went on. It took its toll on him physically, too.

Sherwin was a happy man when he found out what Hugh and I discovered. He wants to go back to Tajikistan, and admitted to me that the prospect of the apnea was weighing heavily on his mind.

To finish up here: First of all, you need to check with your physician about any and all of this. You should

also have a complete checkup before returning to the high altitudes. The following are suggestions for you to talk over with your physician:

- \* Remember to drink extra fluids at high altitude (no need to talk with the doctor about this!)
- \* Begin Diamox 10 days before departure at 250mg (one tablet) daily in the morning
- \* One or two days before ascending to high altitude, increase the dose to 250mg morning and evening
- \* If apnea occurs, split the evening dose to 125mg at bedtime and 125mg at 1:00 or 2:00 a.m.

Finally, do NOT let a high altitude hunt spook you! Many people have done it with no problems. If you prepare and know what to look for, you will be fine. Prepare yourself, and go do it!

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From OVIS #6 (Winter 2000):

I have talked with my friend **Sherwin Scott** (AZ) a lot over the last three or four months. You may remember from my article on high altitude a few issues back that I mentioned a particular problem Sherwin had in Tajikistan at high altitude. He was, of course, hunting Marco Polo and literally did not sleep for days because of high altitude sleep apnoea. Well, he had another trip for Marco Polo planned for October 1999, and we came up with a game plan to combat that terrible problem. Following is Sherwin's report on the hunt and the high altitude solution too:

*Just returned from Tajikistan, where I hunted with **Yuri Matison**. He is one superb sheep hunter, as well as a great outfitter! During my hunt of three weeks, I saw and passed up two rams in the 58" to 60" range, and another that was over 60" but light.*

*The ram I took measures 62 1/4" on the left horn and nearly 58" on the right. Bases are slightly over 15", and total score is 220+, which should place him as #3 or #4 in the book.*

*Hunting was entirely by fly camp in four separate areas. Elevations were anywhere from 13,000 to 16,500 feet. Temperatures varied from a low of 20 degrees to 40 degrees, not counting the wind chill.*

*Yuri's knowledge of the mountains, the location of sheep, and habitat was remarkable. It can also be said that his guides and assistants are also excellent in every regard. Elevation always tends to tire one out (the lack of oxygen), but seeing big Marco Polo rams sure diminishes the effects of minimal oxygen!*

*By the way, no problems with sleep apnoea this time. The panacea is taking DIAMOX® every day, and starting at least a week before going into the mountains.*

*This Marco Polo fulfills one of my longstanding dreams or goals in hunting; namely, to take a great ram over 60". In conjunction with my ammon ammon, which is 61 1/2", it makes quite a combination. In a couple of days I leave for Alberta. We shall see what happens!*

Thanks for the report, and congratulations on a wonderful ram. By the way, I know how Sherwin did on his Alberta hunt, and I even have photos. Sherwin was the high bidder for the Alberta tag for the second year in a row. He did not take a ram in 1998, but made up for that in 1999. That is a story for the *GRAND SLAM* magazine, so you will read of Sherwin's success there. If you are not a member of the **Grand Slam Club** and do not receive *GRAND SLAM*, you can join up with a simple phone call to 205-674-0101, and use your credit card!

"Sleep apnoea no problem this time," Sherwin said. This is not a common occurrence at high altitude, but if it does happen you will be positively miserable. You wake up gasping for breath, and can only sleep for a few minutes at a time... less than a minute in some cases! As Sherwin said, the key is to begin taking 250mg of *DIAMOX*® a week to 10 days prior to the hunt. Take 250mg twice a day while at high altitude, and you can even take a third tablet in a 24-hour period, in the unlikely event that sleep apnoea still occurs.

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From OVIS #9

SPRING 2001

**Carter Davis** (GA) did a fine job of archiving and reporting on his sheep to date. He copied the form (see the new form on page 4) and made multiple copies of the Hunt Report Form (see page 5). He filled in everything and sent that along with photos and this letter:

*Enclosed is my first round of applications for the Ovis World Slam. I have not been spending much time sheep hunting in the last decade; instead, I have concentrated on other North American and African species. Publications like yours really help potential international hunters understand the environment much better and feel secure in their trip planning.*

*As a result of the abovementioned factors, I booked a Marco Polo hunt to Tajikistan with **Gretchen Stark** over*

a year ago. I had originally planned to go in mid-October, but a nasty appendix put me in the hospital the last week of August, and I spent 21 days hospitalized. An intense workout schedule helped with a fast recovery, and I was able to go on a mid-November hunt.

I hunted near Murgab, in the Hot Springs camp, and was hosted by **Sergei Kondratov**, the head of the Russian operation of **Safari Outfitters**. I know everyone has heard of the long, long jeep rides from Osh to the camps. I am convinced, however, that if it were not for the terrific organization and paperwork of Sergei, the trip would be many hours longer. The weather was cold but not unbearable. I don't think we saw anything much worse than 20 below. The daytime temperatures ranged from minus 10 to 30 above. In the five days I was there, I saw nearly 1200 sheep!

My guides and I spotted a good-looking ram, and we spent a couple of days going up and down the mountains and between basins, trying to pin him down. Our persistence paid off and we were fortunate to finally catch my ram feeding in a basin and put on a fast climb just in time to shoot at 5:30 pm. The shot was only 275 yards, and I felt fortunate to get that close. The ram measured 55 x 56 1/2, with 17" bases. As you can tell from the photo, he carries his weight well, and I could not be more pleased with my first Asian sheep.

The Diamox® worked well, and so did the Lomotil®. I had visited the **Emory Travel Clinic** in Atlanta, and they advised only 125mg twice a day of the Diamox. My internist felt I should stick with the proven method of 250mg twice a day. I experimented with both, and actually quit taking the pills after four days and still felt fine.

I currently have the Transcaspian, the Gobi and the Hangay booked, and I will be sending those trip notes in as the hunts conclude. I enjoy OVIS, and I have enclosed a check for the Life Membership.

Great report, Carter! Carter has five sheep toward the Slam, those being a dall (Alaska, 1988), stone (Yukon, 1990), aoudad (Texas, 1995), mouflon (Hawaii, 1996), and of course the Marco Polo from November 2000. Just from what you have said, Carter, it seems obvious that you are now concentrating on sheep, so I look forward to reporting your Ovis World Slam and Grand Slam in the near future.

Let me talk a little about the Diamox® that Carter brought up. Two points: (1) Take 250mg twice a day while at high altitude, and (2) Do not stop (like Carter did) until you leave high altitude. I continue to study this high altitude deal, and even did a pharmacy Continuing Education (CE) course on it recently. (Even though I do not practice pharmacy much any more, I retain my license and by law have to have CE credits.) Bottom line is that high altitude sickness is a real danger, and there are lots of opinions out there. I go with the "be safe rather than sorry" approach. The low dose recommendation (125mg twice daily) Carter mentioned by the Emory Travel Clinic does not stand the test. The literature says that a person can take 1000mg per day or more without problems. Side effects from Diamox are generally mild or nonexistent, and the worst ones are tiredness for a day or two and tingling in the fingers (occasionally the legs or even the face). If the tiredness does occur, it usually lasts only two or three days, and that is why I recommend beginning taking 250mg once a day 7 to 10 days before the trip. That way, the tiredness is gone by the time of your departure. Also, if you are going to experience the tingling, you will have done so already and will be accustomed to it if you begin taking Diamox 7 to 10 days prior.

Some really bad information about Diamox being a diuretic has been put forth to a lot of people. No one wants to be running to the bathroom to urinate (or, to put it in the common terminology, pee) all the time... especially at night. Well, Diamox is not that type of diuretic, and does not cause frequent urination. How does all of this bad information get put out there? Physicians, pharmacists, and nurses do not take the time to read all the literature and actually study it. They read parts, and think they know. Finally, one more time, here is my recommendation, and show this to your doctor. Tell him I said to make sure he knows, and actually reads and studies, the literature before telling you that I am wrong. Begin taking 250mg (one 250mg tablet) once a day, 7 to 10 days before departure for a high altitude hunt (10,000 feet or more). The day before, or day beginning the trip into the high place, begin taking 250mg twice a day (morning and night). If you awake at night gasping for breath (sleep apnea), take an additional 250mg tablet... it will not hurt you, as 1000mg in a 24-hour period is acceptable. Do not stop taking Diamox until you leave the high altitude. So, there it is one more time. See a more in-depth discussion of this in OVIS #4 (Winter 1999), on pages 74-77.

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From OVIS #10

## SUMMER 2001

Following is a 3-hunt report rolled into one. It is good, and comes from **John Reilly** (NE):

*Thank you for including my Transcaspian ural photo for the back cover of the Summer 2000 OVIS (the photo, by the way, was taken by my hunting partner **Steve Hornady**.) I wrote most of this report while in my tent, waiting for a helicopter in Kamchatka, Russia. It was an unusual and at times a very frustrating hunt.*

*We arrived in Petropavlovsk, Kamchatka, in early August and spent three nights waiting for the weather to clear to be able to fly to Palana. We then waited another night for a helicopter to take us to camp. We left camp for the hunt around 9 am on August 11. We journeyed to a far mountain ridge where the guides had seen sheep during their scouting the previous three days.*

*While we were waiting for our chief guide, **Igor**, to come up the rise from far to the north, I spotted sheep in an eastern valley. We had to go off the mountain ridge in a very dangerous and slippery area, but made it to the bottom and made our stalk. We were fortunate the five rams had moved down off of the ridge to the bottom of the creek, and Steve Hornady and I made an arrangement to shoot at the count of three. Well, neither of us was ready, so we both missed. I ran up the valley 75 yards, hoping to get another shot as the sheep came out of the creek bottom, and the fortunes of hunting were with me. I shot a very nice 10-year-old ram at 300 yards.*

*Steve was able to hunt only one other day. We waited for three days in camp for the helicopter to move us to a different area... but no helicopter. Our satellite phone was not working, so we had no means of communication. Steve will have to return in 2001 for hopefully better fortune.*

*Steve and I also hunted in Azerbaijan for Eastern tur in June 2000. On the fourth day of a 5-day hunt we both shot our rams. My ram was a very old 12-year-old ram with the outer portion of the left horn half gone. That adds real character!*

*In November we went hunting for the Marco Polo sheep in Tajikistan for our third hunt of the year. Steve and I left Moscow on the evening flight of November 13 to Bishkek, then to Osh, and finally to the Observatory near Murgab. After three days of scouting with the jeep and on foot, traveling over 150 kilometers each day, Steve and I each shot our rams.*

*Dennis, your information on the use of Diamox® in a previous OVIS magazine was extremely valuable. In spite of following your protocol, Steve did develop some pulmonary problems. One unusual event both of us experienced while we were hunting was a tingling of our fingers and feet, especially after coming down to lower elevations. Have you heard of similar complaints from anyone else?*

*I now have eight sheep, and Steve and I will hunt with **Rowdy McBride** in Texas this fall and with **Bob Kern** for mouflon in the Czech Republic in November. Hopefully, if all goes well, that will be my 12th species of sheep... but as you know, since we have booked with you and **Can-Asia Expeditions** for China, it hopefully will not end anytime soon. It is truly an addictive obsession.*

*Another bit of advice: I know you were sick when you got to camp while you were hunting Marco Polo sheep. I became very ill when we arrived in Osh, after coming down the Pamir Highway from Murgab on the return to Moscow. I feel it was from eating at a little roadside café along the highway. Perhaps you and I picked up similar bugs there. It took me three days of Flagyl® and Septra® to be brave enough to try food again. Perhaps the roadside stops should be reserved only for boiled water for tea, apples, peanuts and candy bars!*

*John, you are correct that I did get very sick. Furthermore, we did stop at that little place along the road. Thinking back, I was sure I picked up the bug at a restaurant where we ate in Osh, but maybe it was the roadside place. Good advice to leave that place alone, huh? Where's a McDonald's when you really need one?!*

*Now, to the tingling... that is a normal side effect. Most people get it just in the fingers, but I have heard reports about tingling of the face and lower legs too. It is okay, and to be expected. What did you mean about Steve having pulmonary problems? Did he start wheezing, or just had trouble breathing? Shallow breathing and even faster respiration are not bad... wheezing is BAD, however, and a sign to get to a lower elevation.*

=====  
*From OVIS #12  
Winter 2002*

## UPDATE: SIDE EFFECTS

**Giancarlo Boienti** (Italy) sent a recent e-mail with what he thought was a strange phenomenon. Here is how

he said it:

*Three days ago I started taking Diamox® in preparation for my high mountain hunt. Since that time, I cannot drink sparkling water or other fizzy soft drinks such as Coke® or Sprite®. The taste of these drinks, especially the water, is disgusting. Have you ever heard of this?*

I responded this way:

*Yes, carbonated drinks taste really bad while taking Diamox®. I guess you will have to drink regular water with no fizz. Also, tea and coffee should taste okay. Fruit drinks will taste fine too. It is only the drinks with carbonation or fizz (the Asians call it gas).*

*Another side effect is that your fingers will sometimes burn, tingle or sting. This only lasts for three to five minutes and is a normal side effect, like the taste of carbonated beverages.*

*Another normal (but not dangerous) side effect for some people is the same tingle or sting in the lower legs, or even their face. These side effects cause no harm, and are just uncomfortable.*

*Finally, in some 25% to 50% of people, there is a temporary (but hard to tolerate) side effect. For the first three or four days, some people experience tiredness and excessive fatigue, especially during exercise. Over the past few years, I have experienced this a couple of times, but not at other times I began the Diamox®. That is one reason I strongly suggest beginning the Diamox® 10 days in advance of going to high altitude.*

Later, Giancarlo told me that he had in fact experienced the tiredness too, and backed off to a half tablet (1/2 of 250mg = 125mg) and felt better. The carbonated beverages still tasted bad, he said.

Actually, the first time I heard about the problem with the taste of carbonated drinks came from **John Teeter** (NC) on our 1999 Marco Polo hunt. John is a Pepsi-Cola® products distributor, and preferred Dr Pepper® for his personal taste (obviously he distributes Dr Pepper® too!). He complained about the taste, and blamed it on the Diamox®. I do not drink many soft drinks myself, so had not noticed until he said that... and of course I knew that he should be an expert on how they were supposed to taste. I then began to notice it myself, and later I even read it listed as a side effect.

Before leaving this Diamox® discussion, I must report on my recent experience with **high altitude sleep apnea**. In Nepal, I camped and slept at 14,500 feet. After four or five days, I became totally acclimated... or so I thought. On day eight or nine, I missed my morning dose. (At high altitude I suggest 250mg morning and evening, while I suggest only 125mg or 250mg daily for the 10-day-in-advance regimen.) After that, I decided to go to a half tablet (125mg) daily to see if there was a change. WOW!! That night, I had trouble going to sleep, and the next night I had a terrible time with full-blown sleep apnea. Every time I dozed off, I would snap awake, gasping for breath. After an hour or so of this, I came to my senses and dug out a Diamox® tablet and took it. Within 30 minutes I was asleep, and slept well for the rest of the night. This was my first time to have sleep apnea, and it was definitely because I was sleeping at such a high altitude. However, it was also because I cut back my blood level of the Diamox®.

Bottom line suggestions:

- (1) Take Diamox® 10 days prior to high altitude exposure (125mg or 250mg per day)
- (2) Take Diamox® 250mg morning and evening while at high altitude
- (3) If high altitude sleep apnea occurs, increase the dose at night by 125mg or 250mg
- (4) Expect the above-mentioned side effects and do not be surprised when they occur
- (5) Discuss all of this with your physician

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## **DEHYDRATION**

*by Dennis Campbell*

*A lot of information has been written about this problem over the years, especially as it relates to high altitude hunting. I have been relatively cognizant of the real danger of dehydration, but during 1997 there came directly or indirectly four different real-life examples that I want to share with you.*

*My wife, 15-year-old daughter, and I took a West Caribbean cruise in June. We had a great time, but on about the third day out my daughter got sick. I am a pharmacist, so naturally I wanted her to give me specific symptoms. We were at one of the evening entertainment deals, and she just said she felt bad and nauseous, and wanted to go to the room. I let her go, but almost immediately got worried and went down to the*

room to check on her. In the good light of the room I noticed the pupils of her eyes... they were abnormally large. Suddenly, I put it all together. She had been out by the pool all day, in that heat, and she was just badly dehydrated. I convinced her that she had to force fluids down, or it would just get worse. I explained that sipping a little wouldn't do, and she would get worse if she did not listen. The fact was that she didn't feel like drinking anything because of the nausea, but she forced herself anyway.

I went back up to the show, and when my wife and I returned to the room my daughter was already better. However, it was still late the next day before she could get completely hydrated and her pupils returned to their normal size. You see, you do not become dehydrated over a short period of time, and your cells cannot reabsorb enough fluid over a short period of time to get completely back to normal... thus, there is a real danger, as a person can continue to be less than fully hydrated.

Another example occurred when my friend and fellow Alabamian Hugh Jacks and I were discussing one of his hunts. He hunted Colorado's Pike's Peak for a bighorn in 1996, and was telling me of a weird problem he had on that trip. He attributed the problem solely to altitude, but I was having trouble putting it all together. He said he felt fine the first five days of the hunt, whereas the few altitude problems I have had in the past have occurred during the first two or three days of the hunt, then cleared up.

Hugh had begun to have trouble sleeping. He was restless, and when he could get to sleep he would awaken breathless, as if he just could not get enough oxygen into his lungs. He generally just felt bad too, and was a little dizzy, but had no headaches. The weather was cold, with lots of snow, through which he had to trudge with great effort.

I suddenly remembered my daughter's problem, and began to ask about how much he was drinking on that trip. He thought back to the cold temperatures, and conceded that he did not remember drinking very much, because of his lack of thirst in that cold. He said that he felt so bad, he normally just went to his tent and rested after the hunt. The bottom line was that Hugh was dehydrated. He said that he got progressively better only two or three days after the hunt (on which he got a beauty of a bighorn, by the way). He also said that he has never had that shortness of breath since then.

The third example also involved Hugh Jacks. In early September 1997, he hunted for his Grand Slam desert ram near Las Vegas, and invited me along to share the experience with him. Now folks, it is HOT in the desert in September!! The long and short of that experience was that the heat reminded us every moment of how important it was to drink liquids. We talked about it a lot, and how it is not just the fluids the body loses by sweating, but the massive amounts lost through the lungs by breathing. These fluids lost from the lungs are overlooked by a lot of people. Just as the desert heat reminded us to drink, the cool temperatures of an October to December mountain hunt would not remind anyone. Exertion in cold temperatures still pumps fluids out of the lungs (and really, from the skin too). By the way, Hugh got a great old desert ram to complete his Slam on the seventh day of his hunt.

The last example is one that is definitely direct, as it happened to me on my high Altay hunt in October/November 1997. We had hunted very hard. The routine was to get up before daylight, and we were usually climbing as the sun came up over the mountain. Almost every day, we came back down the mountain in the dark. The temperature was just wonderful, in that it would be 15 to 20 degrees in the morning and would only get up to 30 or 35 degrees during the day. The sky was clear, and hunting and climbing conditions were perfect.

I felt strong, and was even keeping up with the guide step for step. The sixth day was the hardest, and by the time we reached the vehicle I knew something was wrong. My mouth was like cotton, it was so dry. I then realized I had really messed up. We had been going so fast and furiously that I had not been carrying any water with me. I had turned down a Sprite® for the last two days up on the mountain (11,000 to 12,000 feet), because I just did not like them.

It all caved in on me that evening, because suddenly I realized that I was extremely dehydrated. I was quite dizzy and very nauseated. I did not sleep a wink all night, and drank water every 30 minutes. In the morning, my mouth was still dry as paper. I also had diarrhea, which may or may not have been attributed to the dehydration but sure added to the seriousness of the condition.

At breakfast that morning, of course I could not eat a bite. I did, however, continue to force fluids, whether

*they were hot tea or just plain water. I did not miss a day's hunting, but it was a weak fellow who climbed the mountain on this particular day. We took it a little easier, and water made up my whole diet for that day. By the next morning the diarrhea was gone, and I was able to eat a little soup at dinner. One more day brought me back to 100%.*

*I am supposed to know better than to let such a thing happen.... but I did! Do not be fooled into believing that cool temperatures guarantee that you will not become dehydrated. You can and will lose fluids when you exert energy. You will be affected in a greater way at higher altitudes. The symptoms can be so subtle at first that you may not even realize what is wrong with you. As the cliché goes, it is better to be safe than sorry. Water and any other liquids are definitely in order. Do not let your busy schedule or excitement of the hunt keep you from forcing those fluids! It will be the difference between feeling great and having a great hunt, or feeling terrible and things going totally downhill..... DRINK!!*

## **HIGH ALTITUDE ILLNESS UPDATE**

### **From OVIS #19, Winter 2004**

Our member **Donald Jenkins Jr. (BC)** is a physician and sent in two medical journal articles on the high altitude sickness subject. There is not a whole lot new in them, but some contradictory stuff can be found in the two different articles. Donald sent them several months ago, and I held on to them because I wanted to put more time into studying what they said. Of course, both articles are far too complicated to print in their entirety, so I picked out the most important and NEW stuff for this update. I will also comment on certain points and try to clearly point out and/or explain the contradictions. My credentials for actually attempting this are that I am a pharmacist (even though I do not practice anymore), and I understand at least a little about drugs, their effects, actions, interactions, etc.

The first article is by **Peter H. Hackett M.D.** and **Robert C. Roach M.D.** Following are their important points:

*(1) Whether high-altitude illness occurs is determined by the rate of ascent, the altitude reached, the altitude at which an affected person sleeps, and individual physiology. Risk factors include a history of high-altitude illness, residence at an altitude below 900 m, exertion, and certain preexisting cardiopulmonary conditions. Persons over 50 years of age are somewhat less susceptible to acute mountain sickness than younger persons.*

None of this is particularly new to *OVIS* readers, but I do want to emphasize two points mentioned in the above statement. First is that EXERTION is a risk factor, contributing greatly to the possibility of having problems at high altitude. Solution? Do not do any long, hard stalks during the first two or three days. Take it easy, and you will improve your chances for a great hunt after those three days are over. Second is that after age 50, one becomes LESS LIKELY to have high altitude sickness. I mention this because of you younger, tough, macho guys rather than for us over-50 crowd.

*(2) Physical fitness is not protective against high altitude illness.*

Again, you under 50, tough, macho guys pay attention here. Take acetazolamide (Diamox®) and do not overexert yourself the first three days of your high altitude hunt.

*(3) Remarkably, a descent of only 500 to 1000 m usually leads to resolution of acute mountain sickness.*

*(4) When descent is not possible, administration of acetazolamide (Diamox®) reduced the severity of symptoms by 74 percent within 24 hours. Multiple studies have demonstrated that dexamethasone (Decadron®) is as effective as, or superior to, acetazolamide (Diamox®) and works within 12 hours. Whether the combination of acetazolamide (Diamox®) and dexamethasone (Decadron®), because of their different mechanisms of action, is superior to the use of either agent alone is unknown.*

See later contradictory article about dexamethasone (Decadron®). In other words, you are going to find out that dexamethasone (Decadron®) is not recommended by some physicians, but acetazolamide (Diamox®) is always recommended.

*(5) In two studies, a single dose of 400mg or 600mg of ibuprofen ameliorated or resolved high-altitude headaches.*

Good tip here... of course you should know that ibuprofen is sold as trade name Motrin®, Advil®, and oth-

ers.

(6) *For insomnia requiring treatment, acetazolamide (Diamox®), which reduces periodic breathing and improves nocturnal oxygenation, is the safest agent.*

This has been absolutely proven by two friends, **Sherwin Scott** (AZ) and **Hugh Jacks** (AL). I have also had experience with this phenomenon (sleep apnea) twice myself at high altitude. Once, in Nepal, it began after 10 days at over 14,000 feet and after I cut back my dosage of acetazolamide (Diamox®). Because of this, my recommendation is to continue a 250mg dosage twice a day while at high altitude.

(7) *Most experts recommend prophylaxis for those who plan an ascent from sea level to over 3000 m (sleeping altitude) in one day and for those with a history of acute mountain sickness. Acetazolamide (Diamox®) is the preferred drug, and dexamethasone (Decadron®) is an alternative; both are unequivocally effective; the dosages vary. The combination was more effective than either alone.*

Realize that prophylaxis simply means to take acetazolamide (Diamox®) in advance, whether you need it or not (because if you wait until you need it, that could be too late). Also notice the term “unequivocally effective.” Plain and simple, this stuff works without question. Remember that there will be a contradictory article later concerning dexamethasone (Decadron®), so keep that in mind.

(8) *The notion that overhydration prevents acute mountain sickness has no scientific basis.*

Realizing that overhydration (drinking lots of liquids) does not prevent high altitude sickness, do not miss an important point, which is that dehydration (not enough liquids) is a big contributing factor to problems.

(9) *High-altitude pulmonary edema commonly strikes the second night at a new altitude and rarely occurs after more than four days at a given altitude.*

Remember that HAPE is a second stage and that acute mountain sickness is the first stage. I do not know a single hunter who has advanced to HAPE while taking acetazolamide (Diamox®).

So, there you have the most important points from Hackett and Roach (at least according to me). Now come two rebuttals to some of the assertions made by these two esteemed medicos. First, **R. I. Ogilvie M.D.** of **Toronto Western Hospital** said:

*TO THE EDITOR: Hackett and Roach recommend that adults take acetazolamide (Diamox®) at a dose of 125mg twice a day to prevent high altitude illness. They state that this low dose is as effective as larger doses, while implying that the minimal effective dose remains uncertain. Unfortunately the reference they cite does not support this assumption. After a systematic review, Dumont et al. concluded that 750mg of acetazolamide (Diamox®) was more effective than placebo, regardless of the rate of ascent.*

So you see that the higher dosage of even three 250mg tablets per day (750mg) is recommended by some people. I am in that same camp, as I have always recommended 500mg (two 250mg tablets) per day, and even 750mg if sleep apnea occurs.

Now, another VERY IMPORTANT contradictory letter comes from **Andrew P. White M.D.** of **Yale University School of Medicine**:

*TO THE EDITOR: The use (and potential abuse) of dexamethasone (Decadron®) at high altitude is becoming more commonplace. Although somewhat controversial, dexamethasone (Decadron®) does not enhance the acclimatization process or reduce objective physiological abnormalities related to exposure to high altitudes but, rather, suppresses the symptoms of acute mountain sickness. Severe rebound illness can occur when it is discontinued at high altitude. For these reasons, dexamethasone (Decadron®) should not be used immediately before or while ascending to a higher altitude, but should be reserved for treatment on descent or when descent to a lower altitude must be delayed.*

Oddly enough, one of the original authors, Dr. Hackett, replied to both of these contradictions by essentially agreeing with them that 500mg per day of acetazolamide (Diamox®) would be better. He also said:

*Dr. White highlights the risk of dexamethasone (Decadron®) abuse. Dexamethasone (Decadron®) should not be used for routine prophylaxis, since it does not enhance acclimatization, as acetazolamide (Diamox®) does.*

So, there you have it in a much reduced form. I took eleven pages and “cut to the chase” as concerns us high altitude hunters.

SUMMARY:

(1) For a high altitude hunt (above 10,000 feet) it is recommended to take either two or three 250mg (500mg or 750mg) acetazolamide (Diamox®) tablets per day while at high altitude. You may stop immediately after going below 10,000 feet.

(2) Do not take dexamethasone (Decadron®) prophylactically unless specifically recommended by your physician. Keep this option open for more severe symptoms.

(3) My recommendation is to begin 7 to 10 days before going on a high altitude hunt, with a dose of one 250mg tablet of acetazolamide (Diamox®) per day. The reason for this is for you to become aware of the most common side effects of taking this drug. In a high percentage of people, it causes a couple of days of malaise (tiredness) AND tingling in the extremities (arms, legs and especially fingertips). Sometimes it even causes tingling of the face. Also, for some strange reason some people experience that carbonated drinks have an odd taste. These are all normal side effects and are easily tolerated, even if they are aggravating at times. The tiredness, if it occurs, usually goes away after three days.

I hope this helps. We must continue to stress the importance of this subject, as so many of us venture to high altitudes to hunt.