



Rocky Mountain Aquatics

STAFF MANUAL

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So now you are certified as a SCUBA Diver, come
and join the staff and do something useful.

POOL AND CLASSROOM SESSIONS:

Your first experience as a staff during classroom and pool sessions is not going to be very exciting. You should expect to simply observe.

One of the first places where you might help is with a pool experience. Remember that the basic principle of teaching in the pool is to follow the logical sequence of the established pool program and not go beyond the basics. With a pool experience we teach only basic regulator clearing and allow them to explore the shallow end of the pool. **Remember:** During the introductory pool experiences as well as during the first pool session on SCUBA it is best **NOT** to let students play with or use the Buoyancy Compensator. Filling the B.C. full of air suddenly could cause major physical damage. **DO NOT INTRODUCE THE USE OF THE B.C. UNTIL AFTER THEY HAVE HAD A CHANCE TO LEARN ABOUT IT IN CLASS AND HAVE SPECIFIC INSTRUCTIONS ON HOW TO CONTROL BUOYANCY.**

DO NOT attempt to teach any additional skills without direction. We prefer not to even connect the B.C. automatic inflator so that no one will be tempted to fill it full of air and shoot to the surface. If the directing instructor feels it is appropriate he may permit participants to learn how to clear their ears and go to the deep end of the pool - but only when accompanied by staff.

When you start helping in regular pool sessions, it is important to learn the approved pool skills sequence. You need to keep your eyes open for skills and techniques that students might be attempting in the wrong way or that you might demonstrate in the wrong way. For example:

Some staff members who were certified elsewhere learned to pull the mask away from their face in order to clear it. With many students this causes major problems - just as much water enters the mask as they are getting rid of.

Students need to be reminded to look straight ahead when they begin to clear. They should only look up while breathing out through their nose. They don't ever want to get caught looking up and not breathing out. They will get water down their throat. Each mask is very different. Don't assume that each student will be able to clear his or her mask exactly the way you clear yours. Some masks clear easier than others. Some can really be cleared by looking straight ahead, while some which have odd corners or shapes may require the diver to look almost straight up and move their head from side to side to get all of the water out. When a student is having confidence problems with mask clearing it may be wise to have them try a purge valve mask which makes clearing very easy in order to build confidence before going back to a non-purge mask.

With many individuals the major element of the pool sessions is helping them to become more comfortable in the water. We don't want to introduce any skill in the wrong way or in the wrong sequence because it only makes the process more difficult for them. During the teaching process you must always pay careful attention to the comfort level of the student. Sometimes they will just need extra play time in the pool to become comfortable in a new, aquatic and three dimensional world.

EQUIPMENT AT THE POOL: One of your major assignments is to help make sure that equipment is handled properly. When we have to take equipment to the pool, loading and unloading it in a proper and effective manner is one of the major tasks. Remind students to do their part in loading and unloading the gear. Make sure that tanks are not left standing up and help to ensure that equipment is put together properly.

At the end of the pool session: Remind students to take their gear apart and put it in the appropriate place. Remind students to empty the water out of their B.C. and not to take the tank strap out of the buckle.

Often it is helpful if staff get out of the pool early to be there to help students with their gear as they get out of the pool.

POOL SKILLS SEQUENCE:

FIRST SESSION:

1. Swim Skill Evaluation
 - Swimming - At least 6 lengths
 - Jellyfish Float -
 - Survival Float - We need to take more time to teach this skill as a way of increasing our students' level of comfort in the water.

This sequence helps to determine how comfortable students feel in the water. Staff need to watch swimmers during this evaluation period. Particular note needs to be paid to those who swim without putting their face in the water. This may be an indication of nervousness in the water that will cause problems later on.

2. Mask, Fin and Snorkel Work
 - Review of proper breathing pattern - Explosive exhale and immediate inhale with a rest while the lungs are full.
 - Two length snorkel swim (watch for breathing and Kicks)
 - Snorkel Clearing
 - Kicks and Turns
 - Surface Dives
 - Introduction to Mask Clearing

SECOND SESSION:

1. Equipment Assembly - Demonstrate and then allow each student to assemble their own equipment. **Note:** There may be times when equipment is assembled by staff while students go through the Mask, Fin and Snorkel work. In this case the assembly of equipment will be taught at the beginning of the next session.
2. Tank Don in Water
3. Breathing Underwater
4. Regulator recovery and clearing underwater
 - After teaching this skill, students will be allowed to explore the shallow end of the pool. In some cases if the class is advanced enough and comfortable in the water, ear equalizing will be taught here and students allowed to go to the deep end of the pool.
5. Mask Clearing
6. Kicking and Treading Water
7. Disconnect of Equipment

THIRD SESSION:

1. Equalization Drill
2. Removal of tank underwater* Students will go to the bottom of the deep end while equalizing and there disconnect their left shoulder buckle, remove their tank and swim to the shallow end with their tank in their hands. Assisting staff may be asked to guide students to the deep end and demonstrate tank removal .
3. Tank Doff and Don on Surface
4. Tank Doff and Don and underwater

5. Treading Water

FOURTH SESSION:

1. Buoyancy Control

- * Length of pool snorkel swim
- * Controlled Buoyancy Descent
- * Establishing Neutral Buoyancy
- * Controlled Buoyancy Ascent
- * Establishing Secure Surface Buoyancy
- * Return Snorkel Swim to Shallow end

Note: Buoyancy Control is one of the most difficult and most important skills that students need to gain. In the pool students can only approximate this skill. To really learn, experience in water at least 20 feet deep is needed. Doing fin pivot scuba pushups, swimming through hula hoops at different depths and doing a mid depth hover are all ways to begin to practice and master this skill. Students need to learn that their depth control can be accomplished by the amount of air in their B.C., the depth of their breathing and by the attitude of their body while swimming. Staff need to demonstrate these skills.

2. Octopus Use
3. Treading Water
4. Entries and Exits

FIFTH SESSION:

1. Without Mask underwater swim and mask clearing
2. Simulated Emergency Ascent
3. Tank Breathing

PROBLEMS STUDENTS MAY HAVE:

Students may exhibit one or more or all of the problems outlined here. By becoming aware of the possible problems and their solutions we will all be more effective in training safe and competent scuba divers. Study this list and be prepared.

SURVIVAL FLOAT:

1. PROBLEM: Moving hands - very tense or nervous

SYMPTOM: Student moves around on the surface

SOLUTION: Tell student to keep his hands still and not to move around

2. PROBLEM: Exhales right after inhaling and sinks

SYMPTOM: There will be a burst of bubbles right after the student inhales and then he will start to sink

SOLUTION: Tell the student to hold his breath until he feels the urge to take another breath

3. PROBLEM: Student lifts his head to breathe without sculling with his hands

SOLUTION: Tell the student to scull with his hands and to barely bring his mouth out of the water

4. PROBLEM: Exhales with head out of the water

SYMPTOM: There are no bubbles in the water when the student exhales and you can hear him exhale when his head is out of the water
SOLUTION: Tell the student to exhale into the water and then barely bring his mouth to the surface to breathe out

5. PROBLEM: Doesn't take a full breath
SYMPTOM: Student is slowly sinking
SOLUTION: Tell the student to take a DEEP breath each time he breathes

6. PROBLEM: Student brings head too far out of the water when breathing
SOLUTION: Get the student to barely bring his mouth out of the water or to turn his head to the side with his mouth just above the water to breathe

7. PROBLEM: Exhales immediately
SYMPTOM: Student slowly sinks. You will see a stream of bubbles coming out of his mouth as he sinks. He can get too deep to take another breath easily.
SOLUTION: Tell the student to exhale quickly into the water just before coming to the surface to breathe and to do so while sculling

Becoming comfortable in deep water is important to becoming comfortable in the water. When you are satisfied that you have solved all the problems and that each student can handle himself on the surface, you should bring them back to the shallow end of the pool. Be careful not to keep them out there too long or they may become exhausted.

As students come back to the shallow end, have them put on all of their snorkeling equipment. Check each student to be sure they have their equipment on correctly. It is very important for the comfort of the student. If equipment is not on properly, students are going to have some serious problems and may not continue diving.

PROBLEMS WITH PUTTING ON SNORKELING EQUIPMENT:

1. PROBLEM: Mask or Fins upside down.
SOLUTION: Tell the student to turn his fins or mask over. It will be more comfortable.
2. PROBLEM: Mask straps over the ears.
SYMPTOM: The student will constantly be trying to adjust the straps or mask. With the straps over the ears the mask will feel as though it is falling off or slipping down on the student's face. Also, the student's ear will become very sore in a short time. Always look for this problem.
SOLUTION: Tell your student to adjust his mask strap so that when he puts it on, the straps are set just above the ears.

After checking to be sure that all your students have their equipment on correctly, you are ready to move on to the next exercise, which is the proper use of the snorkel.

This is important: Even if you have old divers in your class, it may very well be that none of your students have ever used a snorkel correctly.

Be sure your presentation and demonstration of how to use this piece of equipment is PERFECT. It is also important that you have your students demonstrate to you on the surface how to clear the snorkel. You should hear them pop it clear. (Listen for a sharp popping sound.) Students should use a lot of force. Otherwise, they won't get the water out. This exercise should be done

in shallow water so that if students have problems they can just stand up.

After doing it correctly on the surface, they are ready to do it in the water. Watch each student to be sure there are not any major problems. If there are, solve them first. Check each student to be sure the snorkel is being cleared properly.

PROBLEMS CLEARING THE SNORKEL:

1. **PROBLEM:** Blowing through the snorkel instead of popping it clear.
SYMPTOM: The student won't be able to get all the water out the first time. When you watch to see if they can clear the snorkel, you will notice a student needs to clear it more than once to get a full breath of air.
SOLUTION: Tell the student to pop the snorkel clear -- to blow real hard.

2. **PROBLEM:** Breathing around the mouthpiece.
SYMPTOM: Student won't get a full breath of air. Student will stand up choking because water is being inhaled with each breath of air. Student will complain about snorkel leaking when he or she pops the snorkel clear at the surface. You might even see air bubbles around the mouthpiece.
SOLUTION: Tell the student to seal his or lips around the mouthpiece.

3. **PROBLEM:** Clearing the snorkel under water.
SYMPTOM: The student's snorkel is under water when he tries to clear it and what you will see is a big burst of bubbles. The student will stand up coughing.
SOLUTION: Tell students to be sure to raise their heads high enough so that the tip of the snorkel is out of the water.

4. **PROBLEM:** The head is held at too great an angle.
SYMPTOM: The student will have trouble clearing the snorkel at the surface. Each time the student surfaces he or she will look down towards his or her feet. This causes the snorkel to dip down into the water and makes them inhale water after they have popped the snorkel clear. (This will leave the snorkel under water sometimes when it is cleared.)

5. **PROBLEM:** Stands up or brings head out of the water while clearing the snorkel.
SOLUTION: Tell students to keep their faces in the water while clearing the snorkel.

Now that the students have mastered clearing their snorkels, you can move them into the next exercise, which is resting comfortable on the surface. Your goal here is to be sure that each student can rest on the surface as relaxed as possible, while breathing through the snorkel.

RESTING:

1. **PROBLEM:** Exhale slowly instead of popping the snorkel after each breath.
SYMPTOM: The student won't be able to float on the surface. Watch for a continuous flow of bubbles coming from the snorkel. The student will also be sinking at the same time.
SOLUTION: Tell the student to pop his snorkel clear and immediately take another breath and hold it until he feels the desire for a further breath of air.

2. PROBLEM: Slurps water. This problem can happen in any of the pool exercises.
 SYMPTOM: Student gags on water in snorkel. If not corrected soon enough, the student will start to drown. The snorkel comes out of his mouth, mask comes off and the kick deteriorates.
 SOLUTION: This is a serious problem. As soon as you hear a student start coughing, immediately move to that student. If they lose control, grab them by the arm and lift them up. Tell them to relax and move to the shallow end. Have them wait in the shallow end until you get their mask. Tell them to put on the mask and snorkel in their mouth. They should then rest on the surface in the shallow end. As so as they are relaxed and comfortable, move them out into the deep water.
3. PROBLEM: Tense or nervous.
 SYMPTOM: Moves around on the surface.
 SOLUTION: Tell students to just rest and nor move around.
4. PROBLEM: Moves to the side of the pool to fix mask.
 SYMPTOM: Holds on to the side of the pool while adjusting mask.
 SOLUTION: Tell students to learn to fix equipment in open water, or to move to the shallow end where they can stand to adjust mask.
5. PROBLEM: Does not take a full breath.
 SYMPTOM: Sinks or acts like they cannot get enough air.
 SOLUTION: Tell students to take a deep breath and hold it until they need another breath.

When each student is able to relax and is comfortably resting, move them back to the shallow end. The next exercise is moving underwater and clearing the snorkel on the surface in a resting position.

MOVING UNDERWATER AND CLEARING THE SNORKEL:

1. PROBLEM: Won't rest - tense.
 SYMPTOM: Moves around on the surface; won't rest' won't dive below the surface.
 SOLUTION: Stop the student from moving around and make him or her rest. After resting, the student should try to get underwater any they can and then come back and rest on the surface.

By now your students should be able to clear their snorkels and rest whenever they are on the surface. Next, you need to teach them how to get under water efficiently. They will see the value in being able to do this efficiently, having done the previous exercise.

ONE-LEGGED SURFACE DIVES:

1. PROBLEM: Not bending at the waist.
 SYMPTOM: Student raises leg slightly but does not go straight down head first. Instead, he will move along the surface gradually going down. This is very hard and uncomfortable for the student.
 SOLUTION: Tell the student to bend at the waist; pick a spot on the bottom and head for it.
2. PROBLEM: Tries to raise leg before bending.
 SYMPTOM: You will see the student trying to lift his leg out of the water without bending at the waist. This is also very tiring for the

SOLUTION: student.
Tell the student to bend at the waist first, then raise one leg and dive down.

3. PROBLEM: NOT KICKING TO THE BOTTOM; PULLING DOWN WITH ARMS.

SYMPTOM: You will see the student using his arms to get under water, instead of kicking down with his fins.

SOLUTION: Advise the student to kick down to the bottom with his fins and keep his arms to his side.

4. PROBLEM: GOING OVER TOO FAR; DOING A FLIP.

SYMPTOM: You will see the student flipping over or going into a circle.

SOLUTION: Tell the student to pick a spot on the bottom and head for it.

5. PROBLEM: LEG BENT AT KNEE.

SYMPTOM: You will see that the student's knee is bent and when he dives down his fin slaps or splashes the water.

SOLUTION: Student should concentrate on keeping his leg straight; or pointing his foot as he dives down. This may also relate to #2 and indicate that the student is still not really bending at the waist.

PROBLEMS WITH MOVING AND CONTROL:

When you demonstrate these exercises, move across in front of your students from one side on the pool to the other. Do this exercise very slowly and over-exaggerate each move. You want your students to see each step of the exercise.

LEVEL I KICK

1. PROBLEM: Kick is too fast and narrow.

SYMPTOM: You can see that the student's kick is very narrow and too fast.

SOLUTION: Tell the student to use a very wide, easy, straight-legged kick.

2. PROBLEM: Bent leg kick.

SYMPTOM: You will see the student bending the knees while kicking. A student's knees will bend a little while kicking and this is normal. What we want to prevent is the bicycle kick. Students using bicycle kick look as though they are riding a bicycle.

NOTE: This kick wastes a lot of energy and MUST be solved before the student is taken to the Open Water experience or they will become worn out and prone to panic.

SOLUTION: Tell the student to concentrate on keeping the legs straight and to point their toes. You may need to ask the student to pretend that they have broken their leg and that it is in a cast. This may force them to overexaggerate having a very stiff, straight leg at first and then they can get a slight bit of bend in the knee after they have developed a habit of keeping the leg straight.

3. PROBLEM: Feet not pointed AT ALL.

SYMPTOM: Student will move backwards and in a circle.

SOLUTION: Tell student to point his toes.

PROBLEMS WITH TURNS

Students should be helped to learn how to control direction by arching their back, or looking up or down in the direction they want to go. This will become more important in Open Water when students can use their direction of swimming to help control buoyancy.

When individual students have obvious problems with moving, and kicking problems they may need individual help on a one on one basis to avoid embarrassment of the student concerned and frustration on the part of those not having any problems.

PROBLEMS WITH THE DOLPHIN KICK

1. **PROBLEM:** Body is too stiff.
SYMPTOM: You will see the student struggling to move ahead and his or body is very rigid.
SOLUTION: Tell the student to relax more and bend his or her body more.
2. **PROBLEM:** Bending knees.
SYMPTOM: You will see the student bending knees and kicking to try to move forward.
SOLUTION: Tell the student to keep his knees straight.
3. **PROBLEM:** Head moves up and down too much.
SYMPTOM: You will see the student's head bobbing up and down as he or she moves across the pool.
SOLUTION: Tell the student not to move their head so much.

Learning to use the dolphin kick will help them to have an alternative kick to relive stress.

TWO LEGGED SURFACE DIVE

1. **PROBLEM:** Not bending at the waist.
SYMPTOM: Student attempts to raise leg but does not go straight down, head first. Instead, they will move along the surface gradually going down. This is very hard and uncomfortable for the student.
SOLUTION: Tell the student to bend at the waist first. Pick a spot on the bottom and head for it.
2. **PROBLEM:** Tries to raise leg before bending.
SYMPTOM: You will see the student lift a leg out of the water without bending at the waist. This will be very tiring for the student.
SOLUTION: Tell the student to bend at the waist first, then raise one leg and dive down.
3. **PROBLEM:** Not kicking to bottom - pulling down with arms.
SYMPTOM: You will see the student using his arms to get under water instead of kicking down with his fins.
SOLUTION: Advise the student to kick down to the bottom with fins and keep arms to their side.
4. **PROBLEM:** Going over too far; doing a flip.
SYMPTOM: You will see the student flipping over or going into a circle.
SOLUTION: Tell the student to pick a spot on the bottom and head for it.

5. **PROBLEM:** Leg bent at knee.
SYMPTOM: You will notice that the student's knee is bent and that when he dives down his fin slaps or splashes the water.
SOLUTION: Student should concentrate on keeping his leg straight -- or pointing his foot as he dives down.

At this point doing an inverted Dolphin Kick may be a good challenge for faster students in the class. This takes more skill. Students can also be challenged by learning the Immelman turn.

Working with kicks, surface dives and turns will help students become safe and at home in the water.

PROBLEMS WITH MASK CLEARING:

1. **PROBLEM:** Pushing too hard on the top of the mask
SYMPTOM: The student will have a very hard time clearing the mask. By pushing hard on the top of the mask, the bottom is moved too far away from the face. This makes it too hard for the student to clear in one breath.
SOLUTION: Tell the student to gently push on the top of the mask while clearing.
2. **PROBLEM:** Blowing in one big blast
SYMPTOM: Student will try to clear the mask in one big burst of air, exhaling all the air in the lungs at one time, leaving them without any air to blow the remainder of the water out.
SOLUTION: Tell the student to blow small amounts of air out slowly until the mask is clear.
3. **PROBLEM:** Tipping the head in the wrong position.
SYMPTOM: You will see the student tipping the head in the wrong direction while clearing the mask. Example: With a purge valve mask, the student should tip the mask so that the purge is at the lowest point. In doing it wrong, the student will tip his mask so that the purge is at the highest point. Certain masks are almost impossible to clear if they are tipped in slightly the wrong direction.
SOLUTION: Tell the student to tip the mask so that the purge or the bottom skirt of the mask are at the lowest point.
4. **PROBLEM:** Blowing out of the mouth instead of the nose.
SYMPTOM: You will see a burst of bubbles coming out of the snorkel or out of the exhaust ports of the regulator and the student won't be able to clear the mask successfully.
SOLUTION: Tell the student to blow out of his nose. You could have the student put their tongue into the snorkel or regulator to prevent air from going out.
5. **PROBLEM:** Water in the nose
SYMPTOM: You will see the student stand up at once when water is inhaled into his nose or as it runs down the back of his throat.
SOLUTION: Tell the student to be sure and exhale through the nose while looking down and move the head slowly so that they are looking up. Continue the process so that they are looking down again

before they finish blowing out. As long as they are blowing out through their nose OR looking down, they cannot get water in their nose.

When teaching mask clearing on scuba in a group, stay on the surface until all students are on the bottom so that you can deal with any problems. When all students are sitting on the bottom they you can join them. Once students are comfortable clearing their masks you want to go the next step to have them experience clearing a completely flooded mask.

PROBLEMS FOR COMPLETELY FLOODED MASK:

PROBLEM:	Water in the nose
SYMPTOM:	You will see the student stand up at once when water is inhaled into their nose as they try to clear the mask.
SOLUTION:	Tell the student to be sure to exhale through their nose. If that doesn't help, tell them to hold their nose while underwater and very slowly release their grip.

If one or a few students are still having problems, have them work on the skill individually with staff assistance. Other students can go on to more advanced exercises:

EXERCISES WITH MASK AND SNORKEL ONLY:

- Drop mask and snorkel to bottom of pool (only at depth where their ears feel comfortable). Retrieve mask and come to surface with both mask and snorkel cleared.
- Drop mask, snorkel and fins to bottom. Retrieve all and come to the surface with equipment properly in place and clear.

1. PROBLEM Lack of breath control

SYMPTOM:	Can't clear both the mask and snorkel in one breath
SOLUTION:	Tell the student to clear the mask first and clear the snorkel either as they come to the surface or to come up and rest on the surface and clear the snorkel last.

2. PROBLEM: Insufficient breath to complete exercise

SYMPTOM:	Student tried to clear mask first and used up all the air, or floats toward the surface and must kick down again
SOLUTION:	Have students put fins on first and then mask. Tell student to work in a calm, relaxed and methodical manner. Hectic thrashing only burns up air more quickly.

SURFACE WORK: (Treading Water)

1. PROBLEM: Using hands

SYMPTOM:	You will see students sculling water with their hands
SOLUTION:	Tell students to try folding their arms across their chest or hold hands behind their back. Immediately check the kick. It may be so poor that they needed to rely on their hands to maintain themselves.

2. PROBLEM: Bends legs at knees

SOLUTION:	Tell student to keep their knees straight and let his fins do the work. Reinforce, "wide, easy, straight-legged kicks."
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3. PROBLEM: Moves all around the pool

SYMPTOM: Student leans head back to breathe, which puts them in a semi-prone position and kicks themselves all around the pool
SOLUTION: Have student assume a more vertical position

4. PROBLEM: Holds head too far above water
SYMPTOM: Student will be working very hard to hold their head high above the water. At times, even shoulders will protrude above the water
SOLUTION: Tell student to allow themselves to sink down into the water and to keep themselves at about chin level.

5. PROBLEM: Leg cramp
SYMPTOM: Student will begin dog paddling, move toward the side of the pool or shallow end, and ask for help
SOLUTION: Get the student to the shallow end. Show them how to massage cramps and explain that they are using new muscles which need to be strengthened. Recommend that they come in to do some extra practice

6. PROBLEM: Narrow kick
SOLUTION: Tell students to spread their legs, "real wide," when kicking

SURFACE WORK: (Entries)

BACKWARD ROLL:

1. PROBLEM: Not looking where they are going
SOLUTION: Tell student to look before entering
2. PROBLEM: Forgets to hold mask
SOLUTION: Remind Student to hold mask
3. PROBLEM: Hits pool deck with heels
SOLUTION: Tell student to repeat exercise and hold one ankle over the top of the other

GIANT STRIDE ENTRY:

4. PROBLEM: Brings feet together before hitting the water
SOLUTION: Tell student to bring legs together in the water
5. PROBLEM: Jumps into the water
SYMPTOM: Student will push off with one leg and hop into the water
SOLUTION: Have student place one foot on edge of pool and simply step off with the other foot

FORWARD ROLL

6. PROBLEM: Doesn't slip over onto shoulders
SYMPTOM: Student enters water face or head first
SOLUTION: Tell student to tuck their head and roll onto shoulders
7. PROBLEM: Flips over too far
SYMPTOM: Does a back flop
SOLUTION: Tell student to roll less and try to hit the water with shoulders

FIRST NIGHT ON SCUBA:

Have students put their equipment together and place tanks laying down on pool deck with valve hanging over the edge of the pool. Have students get into the pool with mask, fins and snorkel in place. Talk about the notion that masks and snorkels should always be in their proper place UNTIL the student is again out of the water. When everyone is ready they can lift their tanks into the pool and await your instructions for putting their tank on.

GETTING TANK INTO THE WATER:

1. PROBLEM: Regulator on wrong
SOLUTION: Have student do whatever is necessary to put the regulator on correctly – remind them that the pressure guage hose comes to the left and the regulators to the right.
2. PROBLEM: Drags the tank into the water instead of lifting it in
SOLUTION: Have student do it again, until done properly
3. PROBLEM: Grabs the tank incorrectly
SYMPTOM: Grabs pack straps, regulator hoses, pack handle, etc.
SOLUTION: Tell student to grab tank by the valve

PUTTING THE TANK ON:

4. PROBLEM: Falls over when lifting tank over head
SYMPTOM: Student leans back too far when passing the tank overhead and the weight of the tank pulls backwards
SOLUTION: Have student sit down straight in the water and float the tank over head
5. PROBLEM: Straps are too far above the elbow and get caught on wrists as the attempt is made to float the tank over the head
SOLUTION: Tell the student to make sure the straps are above the elbow and to spread elbows apart enough so that straps cannot fall down onto wrists as the tank is floated over the head
6. PROBLEM: Holds tank too low
SYMPTOM: Student grips tank close to the bottom and cannot raise it over the head
SOLUTION: Have student hold the tank closer to the top - just about where the strap from the backpack goes around the tank
7. PROBLEM: Pack not adjusted, backwards, upside down, etc.
SYMPTOM: Not always as obvious as you would suspect. If you are careful, these problems will be caught when you check tanks before students attempt to put them on
SOLUTION: Readjust or relocate pack, as necessary
8. PROBLEM: Doesn't get underwater far enough, has to lift the tank far out of the water
SOLUTION: Student must sit down far enough or be in deep enough water to float the tank over the head
9. PROBLEM: Tries to float tank past the side of the head
SOLUTION: Tell student to pass the tank directly overhead
10. PROBLEM: Becomes snarled in straps underwater and has difficulty standing up

up
SYMPTOM: As student struggles, his feet slip out from under and can't stand
SOLUTION: Get to the student immediately and help get to feet and untangles. Release shoulder buckle and dump system off to the right

11. PROBLEM: Student tries to duck under the tank and gets push down to the bottom of the pool
SOLUTION: Tell student that they must make the tank rotate around them in order to remain in control of it. If they try to go under it or around it they loose control of it.

BREATHING UNDERWATER

1. PROBLEM: Improper breathing pattern
SOLUTION: Signal student to come up; reinforce proper breathing pattern
2. PROBLEM: Nervous, unconvinced gear will function underwater
SYMPTOM: Student will talk, make up excuses, invent problems, etc.
SOLUTION: Have student put regulator in mouth, then have them just sit down far enough to that the mouth and regulator are underwater. Let them gain confidence in being able to breathe. When they are comfortable with that, have them put their face underwater and then just sit on the bottom in shallow water. Let them progress at their own rate.
3. PROBLEM: Complains that the regulator breathes hard
SOLUTION: Take a couple of breaths to check regulator. If it is all right, tell student that the regulator is functioning properly and they need to relax and breath slowly and calmly.
4. PROBLEM: Inhales water
SYMPTOM: Student chokes, stands up coughing and gasping
SOLUTION: Check regulator for bad exhaust valve or hole in diaphragm or loose or cracked mouthpiece, etc. If regulator is okay, check that student puts regulator all the way into the mouth and seals it with lips
5. PROBLEM: Floats around out of control
SYMPTOM: Student tries to sit on bottom but legs float up or rolls from side to side
SOLUTION: Tell student to inhale a little shallower. If this does not work, have some weight belts made up and ready

HUMMING (Blowing Bubbles)

6. PROBLEM: Holds breath
SOLUTION: Take regulator out of your mouth and make sound while pointing to bubbles. If student doesn't catch on, signal them up and explain that they must breathe out (hum).
7. PROBLEM: Blows bubbles but doesn't hum
SYMPTOM: You should be able to hear each student humming underwater. If you cannot, student is performing incorrectly
SOLUTION: Reinforce the, "Low-pitched, low volume humming sound."
8. PROBLEM: Allows regulator to free-flow the whole time it is out of the mouth
SOLUTION: Show student how to tip regulator to stop free-flow

9. PROBLEM: No air left to clear regulator
 SOLUTION: Tell student to save enough air to clear regulator
10. PROBLEM: Inhales before clearing regulator
 SYMPTOM: When student puts regulator back into the mouth, no bubbles come out of exhaust tee and they choke and stand up
 SOLUTION: Tell student to continue to blow bubbles into the regulator after putting the regulator back into the mouth

CLEARING THE REGULATOR WITH PURGE

11. PROBLEM: Continues to blow bubbles while pushing purge
 SYMPTOM: Student will put regulator in mouth and blow it clear (you will see bubbles coming out) before pushing the purge
 SOLUTION: Tell student not to blow bubbles into the regulator to clear it this time
12. PROBLEM: Pushes purge too long or too hard
 SOLUTION: Tell the student to push the purge button **gently**
13. PROBLEM: Pushes purge while regulator is out of the mouth
 SOLUTION: Tell student to put the regulator in the mouth before pushing the button
14. PROBLEM: Does not blow bubbles (hum) when regulator is out of the mouth
 SOLUTION: Point to student's lips and indicate to blow bubbles and hum

CLEARING THE REGULATOR BY SWISHING

15. PROBLEM: Clears the regulator by blowing
 SYMPTOM: Moves tongue and cheeks around and then blows the regulator clear. Student has not learned to create the pumping action properly
 SOLUTION: Signal the student to come up and demonstrate the "swishing" action. Have student practice above water until they can do it properly. You will know when they are doing it properly when you can hear the second stage diaphragm move back and forth as the student moves their tongue and cheeks in and out

MOVING AND CONTROL

1. PROBLEM: Not clearing ears
 SOLUTION: Tell student to move in three foot increments and go through the ear clearing drill every three feet (Yawning, moving jaw, holding nose). If their ears are uncomfortable at any time go back three feet instead of down three feet and go back and forth in that three foot space until ears are comfortable before going down the next three feet. They will do best if they stay on the bottom and work on it. Coming up and down constantly only makes the problem worse.
2. PROBLEM: Nervous about going into deep water
 SYMPTOM: Wide-eyes, breathing fast, unusual amount of problems with regulator, ears, etc.

SOLUTION: Move side-by-side with the student and move very slowly into deep water. Once on the bottom, stay close to student until they have gained confidence.

3. PROBLEM: Moves down head first

SOLUTION: Tell student keep their head up at first as they work down to the deep end

TREADING WATER

4. PROBLEM: Improper kick

SOLUTION: Reinforce, "Wide, Easy, Straight-legged kick"

5. PROBLEM: Weak kick

SYMPTOM: Despite kicking properly, student gets tired and drops to the bottom

SOLUTION: Recommend that student come in for extra practice to strengthen kick. Tell them to not be afraid of hurting the water

6. PROBLEM: Tries to hold head too far out of the water

SOLUTION: Tell student to allow body to sink down to chin level

7. PROBLEM: Uses arms

SOLUTION: Have student fold arms across chest

HANDLING THE TANK

1. PROBLEM: Jerks regulator out of mouth when taking tank off underwater

SYMPTOM: Student does not keep the valve close to their body when pulling tank around and regulator gets pulled out

SOLUTION: Be right there to get air supply back to the student. Tell student when on surface to keep valve close to the body. This is why we release the left shoulder buckle when taking the tank off so that as the tank is brought around to the right the valve is close enough to enable the regulator to stay in the mouth easily.

2. PROBLEM: Tank out of control

SYMPTOM: Pulls tank around by pack straps and has difficulty keeping the valve and tank close to the body.

SOLUTION: Tell student to grab the tank itself by the valve by following the hose as they bring it around.

3. PROBLEM: Floats out of control

SOLUTION: Have student breathe with shallow breaths or wear a weight belt

4. PROBLEM: Student attempts to put tank back on before being told to do so

SYMPTOM: Student will begin to buckle up strap and put arms into shoulder straps

SOLUTION: Stop student and have them hold on to tank in shallow water until instructor to proceed further

5. PROBLEM: Puts hose inside arm while doing the first exercise of putting the tank on wrong on the surface

SOLUTION: Have student take right arm and put it inside of the regulator hose before putting it in the shoulder strap

6. PROBLEM: The valve is pointing away from student
SOLUTION: Have student turn the tank around
7. PROBLEM: Tries to lift tank out of water
SOLUTION: Tell student to sit down in the water far enough to float the tank over the head
8. PROBLEM: The pack straps are below the elbows
SOLUTION: Remind student that straps should be just above the elbows
9. PROBLEM: After putting tank on incorrectly, student can't release buckle
SYMPTOM: Student will be struggling, and unable to reach shoulder buckle
SOLUTION: First try to guide student to find buckle verbally, If reaching the buckle is not possible reach over and release the buckle for them and say, "This is what buddies are for."
10. PROBLEM: Student has problems maintaining position underwater while attempting to put tank on underwater correctly.
SOLUTION: Have student maintain stable position by any or all of the following:
- Kneel on one knee with other leg out in front for stability
 - Sit down on the bottom and bring tank around to sit on lap while getting ready to put tank on
 - Putting on a weight belt
11. PROBLEM: Tangles snorkel in pack straps
SOLUTION: Tell student to reach back and pull out his snorkel

BREATHING FROM TANK VALVE

1. PROBLEM: Puts lips over tank valve
SOLUTION: Do not allow student to continue to put lips over valve as this practice could cause damage to lungs.
2. PROBLEM: Turns air up too high
SYMPTOM: Will shoot a stream of bubbles and water into the air
SOLUTION: Have student practice turning valve off and on slightly until they get the feel of how the mechanism of the valve works

ARRIVAL AT THE DIVE SITE: Upon arrival at the dive site staff should begin the process of getting equipment ready for distribution and preparation for the open water experience.

1. While the student divers are being gathered for the dive briefing the gear should be unloaded and organized.
2. While the student divers are being briefed put together equipment for the instructor and other staff.
3. When the dive briefing is over students will be directed to come to receive their wet suits, B.C.'s and weight belts. Staff members need to be available to make sure that each student receives the right size. The following guidelines should be observed.
 - a. The small B.C.'s should go to people with the approximate weight of 130 lbs. or less.
 - b. Medium B.C.'s vary in size according to their design. The important aspect of B.C. fit is that the waist band fits snug around the waist. Shoulder straps can be adjusted over a large range – BUT be careful not to let students tighten the shoulder straps so tight that the waist band comes up around the lower chest.

- c. Large BC's should be used for people weighing over 200 lbs. or who are very big around the middle.
- d. Wetsuits should usually be handed out by the instructor unless you are familiar with what size fits what type and weight person.
- e. Weightbelts should be given out based on the formula of 10% of body weight plus five pounds in fresh water and at least five pounds additional in salt water. The square weights with the sloped sides weigh about four pounds. The absolutely square weights weigh five pounds. The Black and the Blue hip weights weigh 8 pounds each.
- f. Students and staff should use the steel tanks first. The large blue aluminum tanks should be saved for later dives as much as possible.

NOTE: If you have any doubts or questions about equipment, please ask first before distributing or taking equipment. It is always helpful if staff have as much of their own personal gear as possible.

- 4. Students should gather their equipment together and assemble tanks, BC,s and regulators first before putting on their wet suits. Staff should give students opportunities to put their own equipment together but be available to point out problems and give students an opportunity to correct them before getting to the water's edge. Encourage buddy teams to check each other's equipment. RESIST THE TEMPTATION TO TAKE OVER AND DO ANYTHING FOR A STUDENT. They need to learn how to take care of themselves.

NO STUDENT SHOULD ENTER THE WATER WITHOUT A COMPLETE EQUIPMENT CHECK BEING PERFORMED BY BUDDIES AND THEN A MEMBER OF THE STAFF.

THE OPEN WATER EXPERIENCE: Staff can be most helpful in the beginning by getting equipment ready and assisting students to be properly prepared. Open Water assignments and activities are as follows:

- a. Once students have their equipment and the first Open Water Experience with Mask, Fins and Snorkel is ready to begin. Staff should place the Open Water Buoy in its proper place. (Ask where it is to be put) Be sure that the rope from the buoy is tied securely and that it is tight from the buoy to the bottom. It should not be loose enough for the buoy to drift with the current.
- b. After the first Open Water Experience is completed staff need to be available to stand by to assist students don their weight belts (make sure belts are put on correctly) and tanks. Students will go to the instructor one at a time to make sure that they have enough weight to get under water easily. Some students may need to make modifications to their weight belts by adding or subtracting weight. Staff need to be prepared to help with this process. As the instructor works with each individual student to do a buoyancy check, staff should make sure students are under control, organized and ready to go to the instructor one at a time. When students have completed the buoyancy check they need to come back to the starting point, make any weight adjustments necessary and wait quietly until all buoyancy checks are completed and everyone is ready to begin the Open Water Dive Two.
- c. Staff will be needed to assist with Open Water Two depending on the number of students at Open Water.
 - (1) If there are four students the instructor will handle all four under water to complete the required exercises. One staff member should be under water with the instructor and others should stand by on the surface to handle any problems. Staff members who have completed their

Advanced Open Water Certification as well as the rescue diver portion of the Dive Supervisor program can take students on a tour of the surrounding area after the required exercises are completed.

(2) If there are more than four students the instructor will need a staff member assigned to each buddy team to help keep track of students if visibility permits more than four going down at a time. That staff member will escort the assigned buddy team on the surface and go with them under water. If visibility does not permit more than two or four underwater, staff will need to remain on the surface until their assigned buddy team goes under water. They will need to act as traffic cops and take students under water in groups of two or four to meet with the instructor.

(3) At the end of required exercises students ascend to the surface by doing a swimming ascent. They need to be observed on the surface to make sure that they inflate their BC upon arrival at the surface and that they do not remove their regulator from their mouth until they are high and stable. They should be reminded to put their snorkel in their mouth immediately upon the removal of their regulator. They may also need to be reminded to keep their mask on their face.

Staff need to help the instructor emphasize how important it is to develop good habits. Even when the water is calm and without wave action students should:

- Keep their mask on their face until they are out of the water.
- Always inflate the BC fully after coming to the surface.
- Make sure the regulator is kept in the mouth until the student has fully inflated their BC and then make an efficient exchange of snorkel for the regulator.
- Students should be reminded to always have either their snorkel or their regulator in their mouth.

- d. Staff are definitely needed for Open Water Three. A lot of work is done in this Open Water Experience. With a large group and limited visibility one staff member will be needed underwater with every two students. Staff will need to escort their two students to the instructor and follow them to the surface as they execute their Octopus and Emergency ascents, checking them on the surface and escorting them back to the bottom of the buoy to complete their next exercise. After the required exercises have been completed staff need to be available with adequate air to take students in groups of two on a tour of the surrounding area.

NOTE: In the underwater tours after Open Water Two and Three the staff member needs to take the lead, making sure you keep the students in visual contact. Show them by your example how to control buoyancy and swim under complete control.

- e. On the second day with Open Water Four and Five staff will follow divers on a controlled dive. In this dive experience, students will act as dive buddies with staff following them to supervise their activities. Staff need to be prepared to step in to keep students from going too deep and from exceeding their air supply.

TRAINING DEPTHS: Under no circumstances should student divers go deeper than 20

feet on the first day of diving and no deeper than 40 feet on the second day.

THE OPEN WATER EXPERIENCE:

OPEN WATER #1:

- Surface Dive
- Being able to make a surface dive in full wetsuit is a clear indication of the ability to handle themselves in the water. It is at this point that it is clear whether or not we have done a good job in teaching basic surface dives back in the first pool session.
- Mask Clearing and seating with wetsuit hood
- Snorkel Clear
- Vest, Lifesaving, & Resting

OPEN WATER #2:

- Buoyancy Check
- Entry - in-water tank don
- Surface Swim
- Line Descent
- Regulator Clearing
- Mask Clearing
- Manual B.C. Inflation
- Octopus Use
- Kicking Ascent
- Establishing Buoyancy and Resting on Surface

OPEN WATER #3:

- Entry tank on
- Surface Swim with Tank
- Emergency Swimming Ascent
- Vest Ascent
- Resting

OPEN WATER #4:

- Surface Compass Navigation
- Octopus Ascent
- Emergency Buoyant Ascent
- Vest Ascent with Hovering

OPEN WATER #5:

- Entry
- Underwater Navigation
- Air Consumption
- Vest Ascent

AFTER THE OPEN WATER EXPERIENCE:

As students complete their Open Water Experience, staff should remind them to disconnect their equipment and drain the water out of their B.C. All efforts should be made to keep equipment clean of dirt and mud. [REMEMBER THAT WHAT IS LEFT ON THE EQUIPMENT MIGHT EVENTUALLY FIND ITS WAY TO THE POOL AND CAUSE MAJOR PROBLEMS IN POOL

CHEMISTRY AND CLEANLINESS] The last thing staff do in the water is to retrieve the Buoy. Any dirt left in a wet suit will cause it to lose flexibility and be more difficult to pull on the next time it is used.

Do not put wet wetsuits on top of dry wetsuits that were not used or other dry gear. After the mask and regulator boxes have been put in place wet wetsuits should be placed in on top of the wet equipment where they can easily be taken out and hung up to dry.

BC's should be emptied of water.

Be alert and try to help make sure that no equipment is left behind at the dive site, or that equipment is mixed up with other equipment belonging to another group.

REMEMBER - that the sooner everything is packed away the sooner everyone can leave the dive site.

UPON ARRIVAL HOME:

When arriving home help is needed to unload. The wet Wetsuits need to be hung up to dry. If they are muddy or sandy, this is the best time to clean them off and rinse all the equipment before putting it away. If there are time pressures on staff it is possible to leave the BCs where they are but wetsuits must be cleaned and hung up and Masks and Regulators should be rinsed.

NOTE: Staff are certainly welcome to use our equipment for their own diving. Please remember to return equipment in a timely manner so that it can be used for instruction and be sure to do the following:

- Clean wetsuits to remove any traces of dirt or salt. Wash in a front loading washing machine with liquid detergent and fabric softener.
- Make sure you do not transport equipment with weight belts on top of other equipment.
- Please try to not leave a piece of equipment in the trunk of your car or a closet for an extended period of time and forget to return it.
- If equipment is damaged please let me know so that repairs or replacement can be made before it is needed but cannot be used because of the damage.

STAFF TRAINING ISSUES AND COMMENTS;

1. When going to Open Water there several things that you must keep in mind:
 - a. It is a requirement that for any scuba training you have some kind of surface support station. Our round buoy satisfies this requirement. For any kind of training from Basic to Advanced, we must use a buoy of some kind.
 - b. The buoy must be tied to the bottom in such a way that the rope is tight and straight up and down. It cannot be loose enough to allow the buoy to drift in any direction with the current. It must also be tied in such a way that a student without a weight belt can use it to pull down to the bottom without pulling it free or pulling what it is attached to off the bottom.
 - c. Generally keep your eyes open for problems that seem evident with how students have put their equipment together, whether they seem nervous, or whether they are listening to and following directions.
2. When taking students on tours you need to keep the following items in mind:

- a. Be sure to start your tour at the platform in Blue Lake, the Crater or at the bottom of the Buoy in Bear Lake. It gives students time to adjust and to get oriented to being under water. They are less likely to feel lost and confused. Follow the contours of the bottom down rather than dropping straight down into a hole or follow a line to a location already familiar to students.
- b. There are several items that you need to check on the way down to the bottom of the Buoy.
 - (1) Are they equalizing their ears starting at the beginning of the descent and working at it continuously all the way down?
 - (2) Only continue on the tour if they indicate very clearly that their ears are equalized and that their buoyancy is under control. Have them clear their mask even if there is no water in it. It will make sure that they are not experiencing mask squeeze.
 - (3) Check to see if their weight belt is tight and evenly distributed. Having too many weights on their back will make it difficult for them to enjoy the experience.
- c. When you take students on a tour, take your time. There is no rush. I asked one student how he enjoyed his dive. He replied: "It wore me out trying to keep up with him." That is not the purpose of a tour. Take time to look around and to work on adjusting buoyancy.
- d. Show students how to dive and how to be relaxed and comfortable. You really know how to handle buoyancy if you can put your arm down into a hot pot on the bottom of Blue Lake up to your elbow and not stir up the bottom. It can be done if you don't wallow around. Practice your own buoyancy control so that you can be a good example for students.

3. Equipment:

Keep in mind that the equipment is what makes it possible to conduct our program. Keep your eyes open to see that it is treated properly. When you use it make sure you sign out for what you use and bring back what you use in a timely manner. All we have to produce an income and conduct the program is time and equipment. To misuse either is just like stealing food.

4. Training:

I am perfectly willing to provide all the training you want to take as long as you help me run the program and take care of the equipment. Normal training fees are as follows:

Advanced Open Water	\$ 150.00
Dive Supervisor/Rescue Diver	\$ 500.00
Assistant Instructor	\$ 500.00
Instructor	\$1,500.00

Additional Notes:

Remember that loading and unloading the equipment before and after pool sessions as well as before and after Open Water is a major staff responsibility.

A frequent problem is the use of equipment and the failure to return it promptly and in good

condition. Several staff members have used equipment and have in the process of loading and unloading from one vehicle to another done the following things:

- a. Smashed a mask, regulator or B.C. by setting a weight belt on top of it.
- b. Left a hood, or weight belt in the trunk of someone's car with the full intention of returning it but nevertheless - several years later the weight belt or hood is still sitting in the bottom of someone's trunk, making it of little use to me.
- c. Keeping equipment for two or three extra days making it difficult for to teach a class or to get ready to teach a class because of the need to clean equipment or fill tanks.

Certification Courses:

Please keep in mind that the course cost of \$200.00 is still very reasonable. Sell friends and relatives on the notion that the course costs \$200.00 and that to expect a cheaper fee is not reasonable. There are shops around that sell a course for less than that but then later they add things like books, gear rental, cleaning and deposit fees that take the total cost well over \$275.00. Courses at colleges and universities do not take into account the cost for tuition, extra equipment charges, equipment rental and Open Water fees.

If I get a group of six together who all pay up front, I might make a deal with a special price. BUT let me make the deals. Don't promise deals for me so that I look bad if I don't really want to make the deal. If I do too many favors for too many people at the same time I can just "favor" the whole program in to the ground then not be able to do any favors for anyone.

Expect to have to mail in your own course completion forms and include any fees that are required. I have too many forms sitting in my file waiting for pictures and/or signatures.

The Crater:

When acting as staff at the crater the following items should be kept in mind:

- The space in the tunnel is limited so staff should assist students to assemble equipment as out of the way as possible, carry down to the dock and lay it down – remind students to make sure the tank is on the bottom.
- Observe students assembling equipment and remind them of correct positioning – but don't do it for them.
- Get your own equipment and the instructor's equipment assembled and in the water.
- Get students sitting on the edge of the dock with mask and fins in place.
- Place tanks behind the student – have them put their right arm through the right B.C. arm hole and place the unbuckled left shoulder strap over their left shoulder. Students will buckle their left side and do the waist strap.
- If there is more than one staff, we need one on the dock and one in the water – look for direction from the Instructor.
- Keep your eyes on the instructor and the students – be prepared to take direction from the instructor.
- You may be asked to assist students to descend down the line, in which case you need to pay close attention to going down slowly, clearing ears regularly and blowing air into the mask to avoid mask squeeze.
- Once at the bottom you can assist in getting students sitting in a row on the edge of the platform in order to go through the exercises. Staff in advanced training may be

asked to assist in completing the exercises.

- At least one staff will be asked to swim to the plastic pipe square in order to be there when students swim from the platform to the pipes. Generally we will want one staff in front and one in the rear.
- At least one staff should get out of the water first to help students get out and get equipment arranged and manage to stay out of the way of students entering.
- Help to check that all equipment is gathered and removed from the crater. It is easy to leave something behind.