MLML SCUBA DIVING EMERGENCY FLOWCHART

PROTECT YOURSELF & injured person from further harm. Transport victim to a safer location if necessary.

NOT RESPONSIVE

Open airway, check breathing and pulse.

NO PULSE: EMS / UCSG, AED, CPR
(Pages 9 – 10)

Pulse Detected

NOT BREATHING: RESCUE BREATHS,
1 Breath / 5 Seconds
Give O_2 (Pages 11 - 12)
EMS / USCG

Breathing: EMS / USCG,
Maintain the Airway,
Give O_2 (Pages 11 - 12)
Treat for Shock,
Monitor

RESPONSIVE

CHECK for: fatigue, skin rash, pain, pins & needles, visual disturbance, balance problems, breathing problems, dizziness, weakness, paralysis

Symptoms Present

Contact: EMS/USCG

Administer O_2
(Pages 11 – 12)

Call DAN (919) 684-9111

Field Neuro. Exam
(Pages 3-4)

Call MLML Dive Personnel
Do not stop until you reach a person
(Page 7)

Symptoms Absent

Call DAN (919) 684-9111

Field Neuro. Exam
(Page 3-4)

Call MLML Dive Personnel
Do not stop until you reach a person
(Page 7)

Monitor 48 hours for symptoms

Refer to MLML Scuba Diving Injury Protocol (Next Page) for Next Steps

MLML SCUBA DIVING INJURY PROTOCOL

1. Protect yourself and victim from further injury.
2. Assess victim, follow **EMERGENCY FLOWCHART** (page 1)
3. Contact EMS and DAN for diving emergencies. US Coast Guard if offshore (VHF 16).
4. Administer CPR/First Aid (pages 9-10) and Oxygen (pages 11-12) and treat for shock (page 16) as needed. Begin transport unless EMS recommends otherwise.
    1. If a victim is a member of DAN and you are more than 50 miles from campus, you can call 1-800-DAN-EVAC.
    2. You can call 911 and request an ambulance.
    3. You can use a private or university vehicle.
5. Check and monitor victim's dive buddy for any signs or symptoms of DCI.
6. If victim is unstable, check and record vital signs every 5 minutes during transport or while awaiting care.
    1. Check: Pulse (bpm), respiration rate (bpm)
    2. If stable, check and record every 15 minutes.
7. Begin filling out **PATIENT INFORMATION** (page 5) sheet to give to EMS.
8. If conscious, perform **FIELD NEUROLOGICAL EXAMINATION** (pages 3-4).
9. Contact Diving Safety Officer (Diana Steller: (831) 588-5591 (Cell) or (831) 771-4440 (Office), Supervisor/PI, or member of Diving Emergency Personnel as soon as is practical. See **Emergency Telephone Numbers** (page 7) sheet.
10. Retain victim's diving equipment.
    1. Leave gear assembled, turn off air (count number of turns it takes to close valve) and rinse with fresh water (do not exhaust air from reg). Have another person witness this procedure.
    2. Label gear with diver's name and pertinent gear information.
    3. If gear is given to police or EMS, obtain evidence receipt / chain of custody.
11. Gather dive history and other important information, fill out **PATIENT INFO** (page 5) sheet:
    1. Take note of any dive data from a computer, depth gauge, timing device, SPG.
    2. Get the names, phone numbers, and addresses of any witnesses.
    3. DO NOT share ANY information with non-essential personnel.
    4. DO NOT assign or speculate about fault.
    5. Note time and list first aid procedures initiated.
12. Collect victim's personal belongings.
13. Arrange for return transportation or any necessary phone calls for victim if needed.
14. Complete and submit the following forms to the Diving Safety Officer within 24 hours:
    1. For a student, use the following forms:
        1. MLML Accident Form
        2. NAUI Accident Form (If a NAUI class, pages 23 - 25)
    2. For a staff member or volunteer, use the following forms:
        1. MLML Accident Form
        2. NAUI Accident Form (if a NAUI class, pages 23 - 25)
        3. Worker's Compensation Packet or Jones Act (if on a boat).
15. Contact Environmental Health and Safety (Jocelyn Douglas: (831) 750-9563) and complete a CSU Property / Casualty Loss Report.

Neurological Assessment (Neuro) Page 1 of 2

History

Date _____ Time _____

Injured Person's Name _____

Conduct F-A-S-T (check areas of abnormal findings)

□ Facial Symmetry □ Arms □ Speech/Sudden Headache □ Time _____

(activate EMS if any abnormal findings are present)

Complete S-A-M-P-L-E (note responses in spaces provided)

Signs and **S**ymptoms _____

Allergies _____

Medications _____

Pre-existing conditions _____

Last oral intake (what and time) _____

Events leading up to incident _____

For Divers:

Dives during previous 24 hours:

Last dive: Depth _____ Bottom Time _____ Breathing Gas _____

Surface interval _____

Previous dive: Depth _____ Bottom Time _____ Breathing Gas _____

Surface interval _____

Previous dive: Depth _____ Bottom Time _____ Breathing Gas _____

Surface interval _____

Previous dive: Depth _____ Bottom Time _____ Breathing Gas _____

Surface interval _____

Previous dive: Depth _____ Bottom Time _____ Breathing Gas _____

Unusual features of any dive _____

Diver used: □ Computer □ Dive Tables □ Other

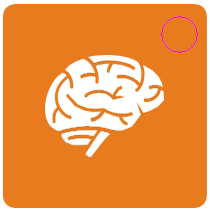
Location of any pain _____

Does movement change level of pain? (check one) □ Yes □ No

Locate dive buddy (check one) □ Yes □ No

Notes: (attach dive buddy and/or witness comments) _____

Neurological Assessment (Neuro) Page 2 of 2



Vital Signs

Time _____ Pulse ____ Resp. _____ 2nd Time _____ Pulse ____ Resp. ___

Mental Function

Consciousness (check one):

- □ Alert
- □ Verbal
- □ Pain
- □ Unresponsive

Orientation (check erroneous answers):

- □ What is your name?
- □ Where are you?
- □ What is the day and time?
- □ Why are you here?

Ability to follow commands: □ Yes □ No
"Stick out your tongue and close your eyes."

Ability to repeat a simple phrase: □ Yes □ No
Ex.: "no ifs, ands, or buts"

Name three objects (able to complete): □ Yes □ No

Abstract reasoning (able to explain relationship): □ Yes □ No
Ex.: Father/Son Student/Teacher Pencil/Paper

Calculations: count backward from 100 by 7s (circle misses):
93 86 79 72 65 58 51 44 37 30 23 16 9 2

Memory (able to recall the three items identified earlier): □ Yes □ No

Cranial Nerves

Eyes (circle any direction unable to look): Left Right Up Down

Facial Symmetry "Close your eyes and smile": □ Yes □ No

Hearing Symmetrical from about 30 cm (1 foot): □ Yes □ No

Motor Function

Scale (note in blank next to area): Normal (N) Weak (W) Paralyzed (P)

Upper Body	Shoulders	L ___ R ___	**Lower Body**	Hip Flexors	L ___ R ___
	Biceps	L ___ R ___		Quadriceps	L ___ R ___
	Triceps	L ___ R ___		Hamstrings	L ___ R ___
	Finger spread	L ___ R ___		Foot – up	L ___ R ___
	Grip Strength	L ___ R ___		Foot – down	L ___ R ___

Coordination and Balance

Able to complete:

Finger – Nose – Finger: Eyes open: □ Yes □ No Eyes closed: □ Yes □ No

Walk: □ Normal □ Wobbly □ Unable Romberg: □ Yes □ No

Exam Repeated

Time _____ Comments _____

Time _____ Comments _____

PATIENT INFORMATION

DATE & TIME OF ACCIDENT:

NAME, GENDER & AGE:

CURENT ADDRESS & ZIP:

EMERGENCY CONTACT:

CURRENT MEDICATIONS:

KNOWN ALLERGIES:

KNOWN MEDICAL CONDITIONS:

LOCATION OF ACCIDENT:

NATURE OF ACCIDENT:

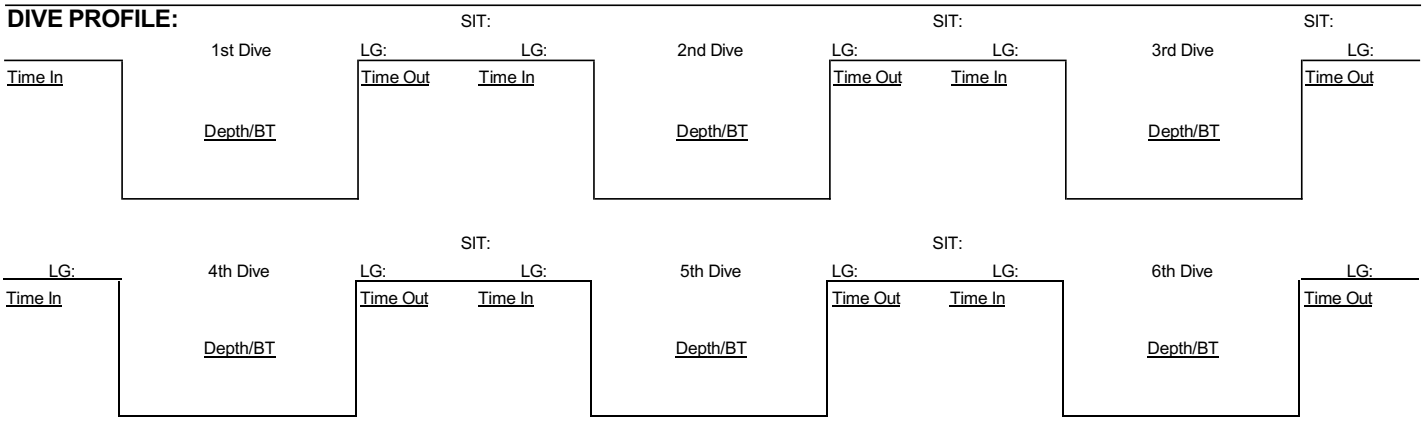
SIGNS & SYMPTOMS:

TIME 02/CPR/First Aid STARTED:

ANY CHANGES IN SIGNS/SYMPTOMS AFTER ONSET OF CARE:

LAST FOOD/FLUID INTAKE AND DISCHARGE:

DIVE PROFILE:



Please use the reverse side to document specifics of the incident. Please be sure to include:
(1) Events leading up to incident
(2) Time patient was transferred to EMS/Emergency room care
(3) Statements from dive buddy/other witnesses

DEMP Table of Contents

MLML SMALL BOATS & DIVING EMERGENCY TELEPHONE NUMBERS

In any emergency, the correct procedure is to call 911. The following is supplementary information only. It is subject to change.

BOATING EMERGENCY – If you are in immediate danger notify the US Coast Guard on CH 16 – see MAYDAY instructions below. If you need assistance and are not in immediate danger contact Small Boat Operations by VHF or phone.

DIVING & BOATING EMERGENCY PERSONNEL OF MLML		
MLML Safety Officer	Jocelyn Douglas	(831) 750-9563 (Cell), (831) 771-4451 (Office)
Marine Operations	John Douglas	(831) 254-7024 (Cell), (831) 771-4122 (Office)
Diving Safety Officer	Diana Steller	(831) 588-5591 (Cell), (831) 771-4440 (Office)
Director.	Petra Dekens	(415) 215-1820 (Cell), (831) 771-4410 (Office)
DCB Co-Chair	Scott Hamilton	(805) 637-1105 (Cell), (831) 771-4497 (Office)
DCB Co-Chair	Amanda Kahn	(510) 936-2624 (Cell), (831) 771-4426 (Office)
Resource Manager	Garren Fisher	(831) 241-5132 (Cell), (831) 771-4405 (Office)
Assistant Dive Safety Officer	Jess Franks	(312) 282-1140 (Cell), (831) 771-4123 (Dive Ops)
Assistant Dive Safety	Logan Early	(570) 236-6109 (Cell), (831) 771-4123 (Dive Ops)
MLML Main Lab Number		(831) 771-4400

****REMEMBER, all dive accidents must be reported within 24 hours****

DIVING RELATED REFERENCES FOR DIVING EMERGENCIES		
Divers Alert Network (DAN) CALL EMS, then DAN before calling any numbers below!		Emergency (919) 684-9111 Non-Emergency (919) 684-2948 Toll Free Non-Emergency 1 (800) 446-2671
Community Hospital of Monterey Peninsula (CHOMP) 23625 WR Holman Highway	Monterey	Emergency 911 Emergency Department (831) 625-4900
Pacific Grove Hyperbaric Facility Meg Donat, Supervisor/Director of PGHC *(Closest chamber)	Pacific Grove	Emergency 911 Meg Donat cell: 831-236-6094
Dominican Hospital 1555 Soquel Dr.	Santa Cruz	(831) 462-7700
Catalina Hyperbaric Chamber (USC) 1 Big Fisherman Cove *(Chamber location)	Catalina Island	Emergency 24hr (310) 510-1053 Primary (310) 510-4020 Chamber (310) 510-4023
LA CO/ USC Medical Alert Center/ USC Medical Center *(Chamber location)	Los Angeles	(323) 409-1000
Northridge Medical Center	Los Angeles	(818) 885-8500
John Muir Medical Center	Walnut Creek	Emergency (925) 939-5800
Saint Francis Hospital *(2nd closest chamber)	San Francisco	Emergency (415) 353-6300

MARINE DISTRESS COMMUNICATION *SPEAK: CLEARLY—CALMLY – SLOWLY

1. Tune **VHF** radio to **Channel 16**. Select **HIGH** power.
2. Press microphone button and say, "**MAYDAY, MAYDAY, MAYDAY**."
3. Give your **LOCATION** as soon as possible.
4. Say "**THIS IS** – your boat name."
5. Tell **WHERE** you are and state the **NATURE** of your **DISTRESS**
6. Give the **NUMBER OF PERSONS** aboard and **CONDITIONS** of any **INJURED**
7. **BRIEFLY DESCRIBE** your **BOAT**
8. Say, "**I WILL BE LISTENING ON CHANNEL 16**."
9. End message by saying, "**THIS IS** – your boat name – **OVER**."
10. Release microphone button and **listen**. Someone should answer. If they DO NOT, **REPEAT CALL**.

EMERGENCY CALL-IN SCRIPT

"I am calling to report a diving-related emergency requiring immediate medical assistance. The victim is a ___(age) year-old ____(gender) who is (conscious/unconscious), with the following symptoms…(describe signs and symptoms). We are at the following location…(address, landmarks, etc.) have initiated care (first aid/CPR/O2), and the last vital signs were as follows…(pulse and respirations). We are requesting immediate transport to… (receiving facility of choice), via (air/ground) transport.

****Note: DO NOT TERMINATE CALL! The receiving unit will end the call.****

MISSING DIVER PROTOCOL

1. Mark starting point of dive OR last known location - Use GPS or anchored buoy (weightbelt, line & life jacket)

2. Note current direction/speed when diver last seen - Use floating object to help in determination - Note sea and weather conditions

3. Note time when dive began, current time & depth of dive to determine when air supply should be depleted. Note time diver was last seen.

4. Note visual reference points above & below the water of last known location

5. Look down-current and towards shore for diver

6. Question dive buddy - anything unusual about dive?

7. AT SEA - radio USCG on vhf radio Ch. 16 or call via cell phone 911 -- ON LAND call 911 and state that you have an **Ocean Rescue Situation**

8. Contact DSO & Diver's Supervisor / PI or someone on Diving Emergency Personnel list, **you must speak to a person**

MAN OVERBOARD PROTOCOL

1. Immediately throw float & yell "man overboard", continue to point toward person, note color of clothing of person

2. Note vessel heading and speed and take visual sightings as well as GPS location

3. Note sea and weather conditions at time of loss overboard

4. Check time of day for daylight hours remaining

5. Contact USCG via VHF radio CH 16 or call 911

6. If Needed - Contact DSO & Diver's Supervisor or PI, **you must speak to a person**

Basic Life Support: CPR, AED, FBAO

Scene Safety Assessment

S	Stop
A	Assess the scene
F	Find oxygen unit, first aid kit and AED, and take to injured person
E	Exposure protection

Initial Assessment (adults and children)

- Assess responsiveness and normal breathing
  - Tap the person's collar bone or shoulder and loudly ask "Are you OK?"
  - State your name and your desire to help
- If the person responds, have them remain in the position found or position of comfort
- If unresponsive but breathing normally, place in recovery position
- If not breathing normally, begin CPR
  - Shout for help or send a specific person to activate EMS

CPR – Adult (one rescuer) Do not delay CPR to wait on an AED or other equipment.

- Use nipple line to find landmark at center of chest for compressions
- Deliver 30 compressions (at least 100-120 per minute)
- Deliver 2 normal breaths, about 1 second each, using barrier device
- Continue CPR cycles of 30:2

Two Rescuers

- One rescuer does chest compressions.
  - Pause compressions for ventilations then immediately resume compressions
- Second rescuer provides rescue breaths
- Switch roles every 2 minutes or after 5 cycles of 30:2

CPR for Children (one rescuer) Do not delay CPR to wait on an AED or other equipment.

- Begin chest compressions using heel of one hand to about 1/3 chest depth
- After 2 minutes of CPR, call EMS if someone has not already done so
- If available, use AED as with an adult; use pediatric pads if available

Two Rescuers

- One rescuer performs compressions, second rescuer performs rescue breaths
- Use same technique as describe above
- Compression to ventilation ratio changes to 15:2
- Pause compressions for ventilations

CPR for Infants (one rescuer)

- Assess responsiveness: Tap bottom of foot and loudly ask "Are you OK?"
- Check for presence of normal breathing and a definite pulse (inside upper arm)
- If unresponsive and not breathing normally, begin CPR
  - Place two or three fingers in the center of the chest between the nipples
- Compress about 1/3 the diameter of the chest; Compression to ventilation ratio of 30:2
- After 2 minutes of CPR, take the infant with you to call EMS if not already done
- If available, use AED placing pads in center of both chest and back (use pediatric pads if appropriate and available)

Emergency Hotline +1 (919) 684-9111

DAN®

Product Code: 381-3880 v3

Basic Life Support: CPR, AED, FBAO

CPR for Infants (two rescuers)

- One rescuer performs compressions, second rescuer performs ventilations
- Compression to ventilation ratio changes to 15:2
  - Rescuer performing compressions can switch to hands circling the chest and two thumbs for compressions
- Pause compressions for ventilations

Person	One Rescuer	Two Rescuers	How to Compress	Depth
Adult	30:2 ratio	30:2 ratio	Two hands stacked	5-6 cm (2-2 1/2 inches)
Child	30:2 ratio	15:2 ratio	Heel of one hand or two hands stacked	5 cm (2 inches) or 1/3 chest depth)
Infant	30:2 ratio	15:2 ratio	Two or three fingers (1 rescuer); two thumbs (2 rescuers)	3.5 cm (1 1/2 inches) or 1/3 chest depth)

Using an AED

- Continue chest compressions while AED is being set up
- Expose and dry the person's chest
  - Shave off chest hair if necessary
- Turn on the unit, and follow prompts provided by the unit
- Allow AED to analyze heart rhythm
- If the AED indicates "shock advised,"
  - Clear the scene both verbally and visually
  - State: "I'm clear, you're clear, all clear";
- Deliver shock when indicated
- Immediately following the shock, resume chest compressions
- Follow prompts of the AED unit

Foreign Body Airway Obstruction (adults and children)

Abdominal Thrusts

- Locate navel and place balled fist, thumb in, against stomach above navel
- Place other hand over fist
- Pull sharply inward and upward until obstruction is released
- If person becomes unconscious, begin CPR starting with compressions

Chest Thrusts

- Stand behind the person, encircling their chest, placing your arms directly under their armpits
- Form a fist and place the thumb side of your fist on the middle of breastbone (avoid the xiphoid process and the margins of the rib cage)
- Place other hand over fist and deliver 5 quick forceful thrusts until obstruction is released
- If the person becomes unconscious, begin CPR, starting with compressions

Back Blows

- Stand to the side and slightly behind the victim
- Support the chest with one hand and lean the victim forward
- Give up to five sharp blows between the shoulder blades with the heel of your hand
- Check to see if each back blow has relieved the airway obstruction
- If the person becomes unconscious, begin CPR, starting with compressions

A combination of techniques maybe needed to remove the obstruction.

Foreign Body Airway Obstruction (infants)

- Place the infant face down on your forearm, cupping their head with your hand
- Deliver five back blows between the shoulder blades
- Place other forearm over infant, creating a sandwich, and turn infant over, face up
- Deliver five chest thrusts as with CPR
- Alternate infant's position (face-down back blows/face-up chest thrusts) until object is released

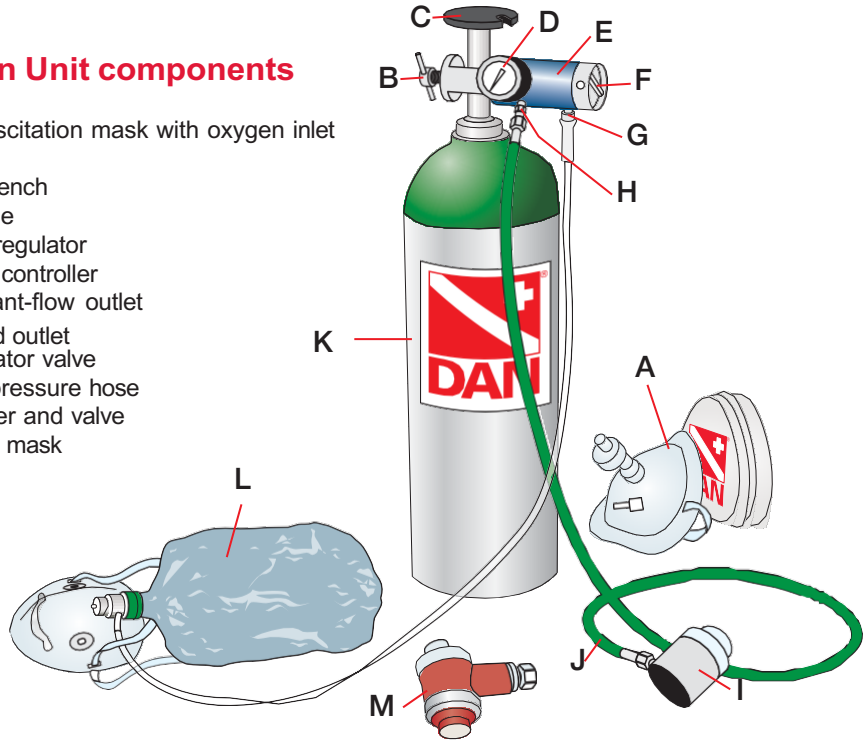
Oxygen Components

Delivery Device	Flow Rate	Inspired Fraction+
Oronasal mask (pocket mask)	10 lpm	≤ 0.5–0.6 (50%–60%)*
Nonrebreather mask	10-15 lpm	≤ 0.8 (80%)**
Bag valve mask	15 lpm	≤ 0.9–0.95 (90%–95%)
Demand valve / MTV	N/A	≤ 0.9–0.95 (90%–95%)

* May vary with respiratory rate
** Less variation with changes in respiratory rate
NOTE: Delivery fractions vary with the equipment and techniques used. This table summarizes various oxygen-delivery systems and potential values of inspired oxygen with their use.

DAN Oxygen Unit components

A. oronasal resuscitation mask with oxygen inlet
B. T-handle
C. handwheel wrench
D. pressure gauge
E. multifunction regulator
F. constant-flow controller
G. barbed constant-flow outlet
H. DISS threaded outlet
I. demand inhalator valve
J. intermediate pressure hose
K. oxygen cylinder and valve
L. nonrebreather mask
M. MTV



WARNING

- Use of DAN oxygen equipment requires appropriate oxygen provider training
- Misuse of this equipment may result in further serious injury or death
- Avoid using this equipment without proper training

Contact DAN for information about oxygen training

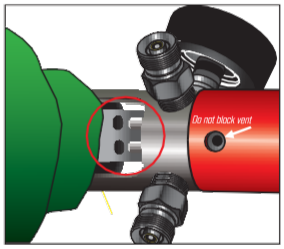
Emergency Hotline +1 (919) 684-9111

DAN®

Product Code: 351-3250 v5.0

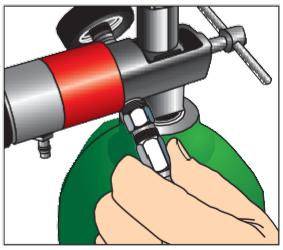
Oxygen
Kit Assembly

Oxygen Regulator

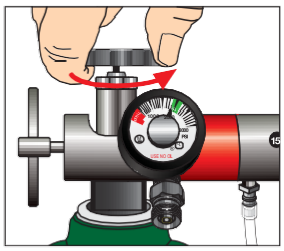


1. Place cylinder in upright position
2. Check for O_2 washer placement on regulator
3. Slide regulator down from the top of the valve and align the two pins to match holes on valve
4. Gently tighten T-handle until regulator is snug on valve

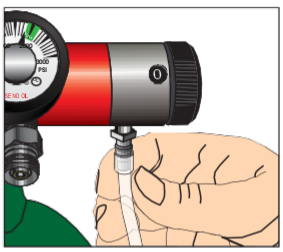
BVM, Demand Valve and Manually Triggered Ventilator



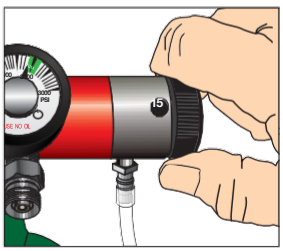
1. Attach hose to one of the DISS threaded outlets on the regulator finger tight
2. Attach demand or MTV valve to other end of hose also finger tight
3. Attach pocket mask to demand or MTV valve
4. Attach handwheel wrench to top of valve
5. Slowly open valve of O_2 cylinder and listen for gas leaks
   - If a gas leak is detected, turn off valve and check constant flow controller, hoses and O_2 washer
6. Slowly open valve one full turn
7. Test demand valve or MTV function by inhaling from mask and exhaling away from mask and over-pressure shut off on MTV
8. Place mask on injured diver's face and secure with elastic straps to maintain proper seal



Nonrebreather Mask



1. Remove nonrebreather mask from packaging
2. Stretch out clear tubing
3. Attach end of oxygen tubing to barbed constant-flow outlet
4. Attach handwheel wrench to top of valve
5. Slowly open valve of oxygen cylinder and listen for gas leaks
   - If gas leaks are detected, turn off valve and check hoses and O_2 washer
6. Slowly open valve one full turn
7. Activate O_2 flow by turning the constant flow controller until it reads 10-15 lpm
8. Prime the reservoir bag by blocking the one-way valve until it is full
9. Place mask on the injured diver's face, secure with elastic straps and adjust nose clip to maintain proper seal
10. Adjust the flow up or down to maintain a reservoir volume of at least 1/3 full during inhalation



Note: All hose connections are hand-tightened; don't use a wrench.

Emergency Hotline +1 (919) 684-9111

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First Aid for Hazardous Marine Life Injuries (HMLI)

Scene Safety Assessment

S	Stop
A	Assess the scene
F	Find oxygen unit, first aid kit and AED, and take to injured person
E	Exposure protection

Initial Assessment

- Assess responsiveness and normal breathing
  - —Tap the person's collar bone and loudly ask, **"Are you OK?"**
  - —State your name and your desire to help
- If the individual responds, have him remain in the position found
- If the person is unresponsive but breathing normally, place them in the recovery position
- If the person is not breathing normally, begin CPR
  - —Shout for help, or send someone to activate EMS

CPR (Do not delay CPR to wait on an AED or other equipment.)

- Deliver 30 compressions followed by two ventilations
- Continue CPR cycles of 30:2
- Deploy AED if available

Shock Management

- Place person on their back or in position of comfort
- Consider elevating legs 15-30 cm (6-12 inches) if no neck, spine, or pelvis injuries
- Maintain normal body temperature
- Monitor continuously
- Do not give fluids

Stings (jellyfish, fire coral, anemones, hydroids)

Signs and Symptoms (Symptoms may progress rapidly.)

- Pain (can be extreme)
- Muscle cramps (may be severe)
- Welts
- Burning and itching
- Localized redness and swelling
- Blisters (formation may be delayed)
- Nausea, fatigue, general malaise
- Shock (rare)

First Aid (Activate emergency medical services immediately if symptoms progress.)

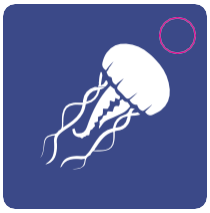
1. Inactivate: Irrigate with generous amounts of white household vinegar.
2. Wear gloves. Remove tentacles with tweezers.
3. Wash/irrigate with seawater or sterile saline, avoid rubbing, and do not use fresh water.
4. Treat the symptoms: Manage pain using hot or cold packs, pain medication, topical anesthetic agents and topical anti-inflammatory agents.
5. Monitor for allergic reaction and/or infection.
6. Treat for allergic reaction if necessary.

Emergency Hotline +1 (919) 684-9111

DAN®

Product Code: 351-3480-1 v3

First Aid for Hazardous Marine Life Injuries (HMLI)



Spiny Envenomations

(lionfish, stonefish, stingrays, seastars/urchins, crown-of-thorns)

Signs and Symptoms

- Puncture or laceration
- Pain (intense, sharp, stinging)
- Protruding spines and/or tissue damage
- Local swelling
- Blisters
- Purple or black skin discoloration (possibly)
- Nausea and vomiting
- Shock (rare)
- Respiratory arrest (rare)
- Cardiac arrest (rare)

First Aid

1. Thoroughly wash area.
2. Remove foreign material with tweezers. (Leave stingray spines in place for removal at medical facility.)
3. Control any bleeding.
4. Manage pain by immersing in hot (nonscalding) fresh water (45˚C / 112˚F maximum) for 30-90 minutes. (Cold packs may also be used.)
5. Leave blisters intact.
6. Apply topical antibiotic ointment.
7. Monitor responsiveness.
8. Seek medical evaluation.
9. Use antivenin for stonefish, if indicated.
10. Monitor for allergic reaction and/or infection.

Contact Injuries

(sponges, corals, bristle worms)

Signs and Symptoms

- Sharp, stinging pain
- Localized redness
- Mild to severe itching
- Swelling
- Burning sensation, numbness
- Blisters
- Bleeding associated with cuts/scrapes

First Aid

1. Wash with soap and water.
2. Remove foreign material.
   a. Cellophane tape may help with bristle removal.
   b. Irrigate to dislodge debris.
3. Control any bleeding.
4. Leave blisters intact.
5. Eye contact: Flush with fresh water and seek medical attention.
6. Monitor for infection.

First Aid for Hazardous Marine Life Injuries (HMLI)

Pressure Immobilization Technique

(sea snake and blue-ringed octopus bites, cone shell envenomations)

Signs and Symptoms

Symptoms may progress rapidly and vary with type of injury.

- Immediate pain
- Mild swelling and / or redness
- Numbness / changes in sensation
- Confusion
- Progressive weakness
- Bleeding associated with cuts / scrapes

First Aid

1. Keep injured person still.
2. Wash with soap and water.
3. Remove foreign material if present.
4. Apply dressing over bite.
5. Apply elastic bandage snugly but not excessively tight over the site.
   - Wrap at least 15 cm (6 inches) on either side of the wound if possible.
6. Check for adequate circulation/pulse at fingers/toes (capillary refill).
7. Splint affected extremity.
8. Use a sling when the wound is on the hand or arm.
9. Do not remove until at a medical facility.
10. Transport immediately.

(use of a cold pack may slow localized blood flow and spread of venom)

Traumatic Injuries

(control of external bleeding)

Signs and Symptoms

- Bites (teeth in wound)
- Severe scrapes

First Aid

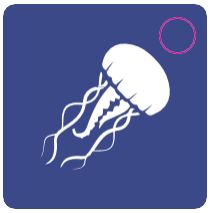
1. Wash with soap and water.
2. Control bleeding with direct pressure.
3. Apply dressing and bandage.
4. Seek medical evaluation.
5. Monitor for signs of infection.

Applying a Tourniquet

(if bleeding is profuse and uncontrolled by direct pressure)

1. Apply 2.5-5 cm (1-2 inches) above the wound.
   - Or high and tight on the affected limb.
2. Place windlass over the path of the artery.
3. Turn windlass until bleeding stops, and secure in place.
4. Note “T” or “TK” on injured person’s forehead.
5. Continue to monitor and provide verbal support.

First Aid for Hazardous Marine Life Injuries (HMLI)



Life-Threatening Complications

Shock

The following are MEDICAL EMERGENCIES. Alert local emergency medical services immediately!

Anaphylatic Shock: Signs/Symptoms (swelling, itching, airway narrowing, respiratory distress)

- Assist with any prescribed allergy medications.

Cardiogenic Shock: Signs/Symptoms (pale, clammy skin; severe shortness of breath; weak pulse)

- Have person lay on their back or in a position of comfort; monitor responsiveness

Hypovolemic Shock: Signs/Symptoms (pale, clammy skin; confusion; weakness; rapid breathing)

- Control any bleeding; lay person on back or in position of comfort; monitor responsiveness.

Seafood Poisoning

Symptoms may progress rapidly with tetrodotoxin (TTX) poisoning.

Activate emergency medical services immediately if neurological symptoms appear.

Signs and Symptoms

- Abdominal pain, gastroenteritis
- Nausea, vomiting
- Diarrhea
- Numbness, tingling
- Itching
- Lack of muscle coordination
- Paralysis
- Reversal of hot and cold perception

First Aid

1. Monitor responsiveness.
2. Treat for anaphylatic shock if necessary.
3. Contact the local poison control center. Save fish or vomitus for analysis if available.
4. Seek evaluation from a medical professional when seafood poisoning is suspected.

Notes: _____

AIR DIVE TABLES

NAUI WORLDWIDE
DIVE SAFETY THROUGH EDUCATION

WARNING: EVEN STRICT COMPLIANCE WITH THESE TABLES WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS. CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME

+ADT ACTUAL DIVE TIME

TNT TOTAL NITROGEN TIME

(USE THIS FIGURE TO DETERMINE END-OF-DIVE LETTER GROUP.)

TABLE 1: END-OF-DIVE LETTER GROUP

START DEPTH MSW	START DEPTH FSW	A	B	C	D	E	F	G	H	I	J	K	L	M	N
6	20 ➤	26	43	61	82	106	133	165	205	256	330	461			
9	30 ➤	17	27	38	50	62	76	91	107	125	145	167	193	223	260 / 5
12	40 ➤	12	20	27	36	44	53	63	73	84	95	108	121	130	140 / 6
15	50 ➤	9	15	21	28	34	41	48	56	63	71	75		80 / 2	
18	60 ➤	7	12	17	22	28	33	39	45	50			55 / 2		
21	70 ➤	6	10	14	19	23	28	32	37	40		48 / 2			
24	80 ➤	5	9	12	16	20	24	28	30		35 / 1				
27	90 ➤	4	7	11	14	17	21	24	25		30 / 5				
30	100 ➤	4	6	9	12	15	18	20			25 / 5				
33	110 ➤	3	6	8	11	14	15			20 / 5					
36	120 ➤	3	5	7	10	12			15 / 5						
40	130 ➤	2	4	6	8			10 / 5							

00 MAXIMUM DIVE TIME (MDT)

00 / 00 DIVE TIME REQUIRING DECOMPRESSION / NUMBER MINUTES REQUIRED AT 5-MSW STOP (15-FSW)

MSW	06	09	12	15	18	21	24	27	30	33	36	40	NEW GROUP
FSW	20	30	40	50	60	70	80	90	100	110	120	130	
	27 / 434	18 / 205	13 / 117	11 / 64	9 / 41	8 / 32	7 / 23	6 / 19	5 / 15	5 / 10	5 / 7	4 / 4	◄ A
	44 / 417	28 / 195	21 / 109	17 / 58	14 / 36	12 / 28	10 / 20	9 / 16	8 / 12	8 / 7	7 / 5	6 / 2	◄ B
	62 / 399	39 / 184	29 / 101	23 / 52	19 / 31	16 / 24	14 / 16	12 / 13	11 / 9	10 / 5	9 / 3	8 / 0	◄ C
	83 / 378	51 / 172	37 / 93	29 / 46	24 / 26	20 / 20	18 / 12	16 / 9	14 / 6	13 / 2	12 / 0		◄ D
	106 / 355	63 / 160	45 / 85	35 / 40	29 / 21	25 / 15	22 / 8	19 / 6	17 / 3	15 / 0			◄ E
	134 / 327	77 / 146	55 / 75	42 / 33	35 / 15	29 / 11	25 / 5	22 / 3	20 / 0				◄ F
	166 / 295	92 / 131	64 / 66	49 / 26	40 / 10	34 / 6	29 / 1	25 / 0					◄ G
	206 / 255	108 / 115	74 / 56	57 / 18	46 / 4	39 / 1	30 / 0						◄ H
	257 / 204	126 / 97	85 / 45	65 / 10	50 / 0	40 / 0							◄ I
	331 / 130	146 / 77	97 / 33	73 / 2									◄ J
	461 / 0	168 / 55	109 / 21	75 / 0									◄ K
		194 / 29	122 / 8										◄ L
		223 / 0	130 / 0										◄ M
													◄ N

AVOID REPETITIVE DIVES OVER 30 MSW (100 FSW)

A	B	C	D	E	F	G	H	I	J	K	L	M	N
24:00 / 0:10	24:00 / 1:17	24:00 / 2:12	24:00 / 3:04	24:00 / 3:56	24:00 / 4:49	24:00 / 5:41	24:00 / 6:33	24:00 / 7:25	24:00 / 8:17	24:00 / 9:10	24:00 / 10:02	24:00 / 10:54	24:00 / 11:46
	1:16 / 0:10	2:11 / 0:56	3:03 / 1:48	3:55 / 2:40	4:48 / 3:32	5:40 / 4:24	6:32 / 5:17	7:24 / 6:09	8:16 / 7:01	9:09 / 7:53	10:01 / 8:45	10:53 / 9:38	11:45 / 10:30
		0:55 / 0:10	1:47 / 0:53	2:39 / 1:45	3:31 / 2:38	4:23 / 3:30	5:16 / 4:22	6:08 / 5:14	7:00 / 6:07	7:52 / 6:59	8:44 / 7:51	9:37 / 8:43	10:29 / 9:35
			0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43
				0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51
					0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59
						0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07
							0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14
								0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22
									0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30
										0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38
											0:52 / 0:10	1:44 / 0:53	2:37 / 1:45
												0:52 / 0:10	1:44 / 0:53
													0:52 / 0:10

TABLE 3: REPETITIVE DIVE TIMETABLE

00 / 00 LIGHT FACE / BLUE NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT)

BOLD FACE / RED NUMBERS ARE ADJUSTED MAXIMUM DIVE TIMES (AMDT). ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

TABLE 2: SURFACE INTERVAL TIME (SIT) TABLE

TIME RANGES IN HOURS : MINUTES

#33501 (Rev.07/19)

EAN 32 DIVE TABLE

USE ONLY WITH 32% OXYGEN ENRICHED AIR

WARNING: EVEN STRICT COMPLIANCE WITH THESE TABLES WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS. CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME
+ADT ACTUAL DIVE TIME
TNT TOTAL NITROGEN TIME

(USE THIS FIGURE TO DETERMINE END-OF-DIVE LETTER GROUP.)

TABLE 1 - END-OF-DIVE LETTER GROUP

* HIGHEST ATTAINABLE GROUP AT THIS DEPTH REGARDLESS OF BOTTOM TIME

SHADE INDICATES PO_2 GREATER THAN 1.4 ATM OR O_2 TIME LIMIT EXCEEDED

00 MAXIMUM NO-STOP TIME

00 DIVE TIME REQUIRING DECOMPRESSION
00 MINUTES REQUIRED AT 5-MSW STOP (15-FSW)

PO_2	START DEPTH msw	START DEPTH fsw	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
0.5	6	20 ➤	36	60	88	121	163	217	297	449	*						
0.6	9	30 ➤	20	33	47	62	78	97	117	140	166	198	236	285	354	465 5	500
0.7	12	40 ➤	17	27	30	50	62	76	91	107	125	145	167	193	223	260 5	300
0.8	15	50 ➤	12	20	27	36	44	53	63	73	84	95	108	121	130	6	135
0.9	18	60 ➤	9	15	21	28	34	41	48	56	63	71	75	80 2			
1.0	21	70 ➤	7	12	17	22	28	33	39	45	50			55 2			
1.1	24	80 ➤	6	10	14	19	23	28	32	37	40		45 2				
1.2	27	90 ➤	5	9	12	16	20	24	28	30		35 1					
1.3	30	100 ➤	4	7	11	14	17	21	24	25		30 4					
1.4	33	110 ➤	4	6	9	12	15	18	21	25		30 4					
1.5	36	120 ➤	4	6	9	12	15	18	20			25 3					
1.6	40	130 ➤	3	6	8	11	14	15			20 5						

PO_2	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	
msw	6	9	12	15	18	21	24	27	30	33	36	40	
fsw	20	30	40	50	60	70	80	90	100	110	120	130	NEW GROUP
**	21 444	18 242	13 117	11 64	9 41	8 32	7 23	6 19	5 20	5 15	5 15	5 10	◄ A
**	34 431	28 232	21 109	17 58	14 36	12 28	10 20	9 16	8 17	8 12	8 12	8 7	◄ B
**	48 417	39 221	29 101	23 52	19 31	16 24	14 16	12 13	11 14	11 9	10 5		◄ C
**	63 402	51 209	37 93	29 46	24 26	20 20	18 12	16 9	14 11	14 6	13 2		◄ D
**	79 386	63 197	45 85	35 40	29 21	25 15	22 8	19 6	17 8	17 3	15 0		◄ E
**	98 367	77 183	55 75	42 33	35 15	29 11	25 5	22 3	20 5	20 0			◄ F
**	118 347	92 168	64 66	49 26	40 10	34 6	29 1	25 0	23 2				◄ G
**	141 324	108 152	74 56	57 18	46 4	39 1	30 0		25 0				◄ H
**	167 298	126 134	85 45	65 10	50 0	40 0							◄ I
**	198 267	146 114	97 33	73 2									◄ J
**	237 228	168 92	109 21	75 0									◄ K
**	286 179	194 66	122 8										◄ L
**	354 111	224 36	130 0										◄ M
**	465 0	260 0											◄ N
**													◄ O

TABLE 3 - REPETITIVE DIVE TIMETABLE

00 / 00 LIGHT FACE / BLACK NUMBERS (TOP) ARE RESIDUAL NITROGEN TIMES (RNT)
BOLD FACE / RED NUMBERS (BOTTOM) ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES. ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

** RESIDUAL NITROGEN TIME (RNT) EXCEPTION (see rule on reverse)

TABLE 2 - SURFACE INTERVAL TIME TABLE

TIME RANGES IN HOURS : MINUTES
ENTER FROM THE TOP, MOVE DOWN TO FIND SURFACE INTERVAL TIME.
MOVE LEFT TO FIND THE NEXT PRESSURE GROUP.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
24:00 0:10	24:00 1:17	24:00 2:12	24:00 3:04	24:00 3:56	24:00 4:49	24:00 5:41	24:00 6:33	24:00 7:25	24:00 8:17	24:00 9:10	24:00 10:02	24:00 10:54	24:00 11:46	24:00 12:38
	1:16 0:10	2:11 0:56	3:03 1:48	3:55 2:40	4:48 3:32	5:40 4:24	6:32 5:17	7:24 6:09	8:16 7:01	9:09 7:53	10:01 8:45	10:53 9:38	11:45 10:30	12:37 11:22
		0:55 0:10	1:47 0:53	2:39 1:45	3:31 2:38	4:23 3:30	5:16 4:22	6:08 5:14	7:00 6:07	7:52 6:59	8:44 7:51	9:37 8:43	10:29 9:35	11:21 10:28
			0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43	10:27 9:35
				0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43
					0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51
						0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59
							0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07
								0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14
									0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22
										0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30
											0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38
												0:52 0:10	1:44 0:53	2:37 1:45
													0:52 0:10	1:44 0:53
														0:52 0:10

#35502-32 (Rev. 07/19)

EAN 36 DIVE TABLE

USE ONLY WITH 36% OXYGEN ENRICHED AIR

WARNING: EVEN STRICT COMPLIANCE WITH THESE TABLES WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS. CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME
+ADT ACTUAL DIVE TIME
TNT TOTAL NITROGEN TIME

(USE THIS FIGURE TO DETERMINE END-OF-DIVE LETTER GROUP.)

TABLE 1 - END-OF-DIVE LETTER GROUP

* HIGHEST ATTAINABLE GROUP AT THIS DEPTH REGARDLESS OF BOTTOM TIME

SHADE INDICATES PO_2 GREATER THAN 1.4 ATM OR O_2 TIME LIMIT EXCEEDED

00 MAXIMUM NO-STOP TIME

00 DIVE TIME REQUIRING DECOMPRESSION
00 MINUTES REQUIRED AT 5-MSW STOP (15-FSW)

PO_2	START DEPTH msw	fsw															
0.6	6	20➤	57	101	158	245	426	*									
0.7	9	30➤	26	43	61	82	106	133	165	205	256	330	461	*			
0.8	12	40➤	17	27	38	50	62	76	91	107	125	145	167	193	223	260	300 3
0.9	15	50➤	14	23	32	42	52	63	74	87	100	115	131	148	168	185	190 3
1.0	18	60➤	11	17	24	31	39	46	55	63	72	82	92	100	105 3		
1.2	21	70➤	8	14	19	25	31	37	43	50	56	60	65 3		100 14		
1.3	24	80➤	7	12	17	22	28	33	39	45	50	55 3					
1.4	27	90➤	6	10	14	19	23	28	32	37	40	45 3					
1.5	30	100➤	5	9	12	16	20	24	28	30	35 3						
1.6	33	110➤	4	7	11	14	17	21	24	25	30 5						

TABLE 3 - REPETITIVE DIVE TIMETABLE

PO_2	0.6	0.7	0.8	0.9	1.0	1.2	1.3	1.4	1.5	1.6	NEW GROUP
msw	06	09	12	15	18	21	24	27	30	33	
fsw	20	30	40	50	60	70	80	90	100	110	
	**	**	18 242	15 170	12 88	10 50	9 41	8 32	7 23	6 19	◄ A
	**	**	28 232	24 161	18 82	15 45	14 36	12 28	10 20	9 16	◄ B
	**	**	39 221	33 152	25 75	20 40	19 31	16 24	14 16	12 13	◄ C
	**	**	51 209	43 142	32 68	26 34	24 26	20 20	18 12	16 9	◄ D
	**	**	63 197	53 132	40 60	32 28	29 21	25 15	22 8	19 6	◄ E
	**	**	77 183	64 121	48 52	38 22	35 15	29 11	25 5	22 3	◄ F
	**	**	92 168	75 110	56 44	44 16	40 10	34 6	29 1	25 0	◄ G
	**	**	108 152	88 97	64 36	51 9	46 4	39 1	30 0		◄ H
	**	**	126 134	101 184	73 27	58 2	50 0	40 0			◄ I
	**	**	146 114	116 69	83 17	60 0					◄ J
	**	**	168 92	132 53	93 7						◄ K
	**		194 66	149 36	100 0						◄ L
	**	**	224 36	169 16							◄ M
	**	**	260 0	185 0							◄ N
	**	**									◄ O

00 LIGHT FACE / BLACK NUMBERS (TOP) ARE RESIDUAL NITROGEN TIMES (RNT)
00 **BOLD FACE** / RED NUMBERS (BOTTOM) ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES. ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

** RESIDUAL NITROGEN TIME (RNT) EXCEPTION (see rule on reverse)

TABLE 2 - SURFACE INTERVAL TIME TABLE

TIME RANGES IN HOURS : MINUTES
ENTER FROM THE TOP, MOVE DOWN TO FIND SURFACE INTERVAL TIME.
MOVE LEFT TO FIND THE NEXT PRESSURE GROUP.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
24:00 0:10	24:00 1:17	24:00 2:12	24:00 3:04	24:00 3:56	24:00 4:49	24:00 5:41	24:00 6:33	24:00 7:25	24:00 8:17	24:00 9:10	24:00 10:02	24:00 10:54	24:00 11:46	24:00 12:38
	1:16 0:10	2:11 0:56	3:03 1:48	3:55 2:40	4:48 3:32	5:40 4:24	6:32 5:17	7:24 6:09	8:16 7:01	9:09 7:53	10:01 8:45	10:53 9:38	11:45 10:30	12:37 11:22
		0:55 0:10	1:47 0:53	2:39 1:45	3:31 2:38	4:23 3:30	5:16 4:22	6:08 5:14	7:00 6:07	7:52 6:59	8:44 7:51	9:37 8:43	10:29 9:35	11:21 10:28
			0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43	10:27 9:35
				0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43
					0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51
						0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59
							0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07
								0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14
									0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22
										0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30
											0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38
												0:52 0:10	1:44 0:53	2:37 1:45
													0:52 0:10	1:44 0:53
														0:52 0:10

#35502-36 (Rev. 07/19)

Maximum Operating Depth (MOD) Tables

Maximum Operating Depth (in fsw) for Various Nitrox Mixes										
Percent O2	**21%**	**22%**	**24%**	**26%**	**28%**	**30%**	**32%**	**34%**	**38%**	**40%**
1.0 ata	124	117	104	93	84	77	70	64	58	49
1.1 ata	139	132	118	106	96	88	80	73	67	57
1.2 ata	155	147	132	119	108	99	90	83	77	66
1.3 ata	171	162	145	132	120	110	101	93	86	74
1.4 ata	187	177	159	144	132	121	111	102	95	82
1.5 ata	202	192	173	157	143	132	121	112	104	90
1.8 ata	218	207	187	170	155	143	122	122	113	99

TABLE SHOWS MAXIMUM OPERATING DEPTH FOR BREATHING GASES FROM AIR TO EAN40. FOR INTERMEDIATE OXYGEN FRACTIONS, USE THE NEXT RICHER MIX. FRACTIONAL DEPTHS HAVE BEEN ROUNDED DOWN TO THE NEXT SHALLOWER WHOLE NUMBER. DEPTHS GREATER THAN 130 FSW ARE SHADED DARK. MODS FOR THE RECOMMENDED MAXIMUM EXPOSURE OF 1.4 ATA ARE LIGHTLY SHADED

Maximum Operating Depth (in msw) for Various Nitrox Mixes										
Percent O2	**21%**	**22%**	**24%**	**26%**	**28%**	**30%**	**32%**	**34%**	**38%**	**40%**
1.0 ata	38	35	31	28	26	23	21	19	17	15
1.1 ata	42	40	36	32	29	26	24	22	20	17
1.2 ata	47	44	40	36	33	30	27	25	23	20
1.3 ata	52	48	44	40	36	33	30	28	26	22
1.4 ata	57	54	48	43	40	36	33	31	28	25
1.5 ata	61	58	52	47	43	40	36	34	31	27
1.8 ata	66	63	57	51	47	43	40	37	34	30

TABLE SHOWS MAXIMUM OPERATING DEPTH FOR BREATHING GASES FROM AIR TO EAN40. FOR INTERMEDIATE OXYGEN FRACTIONS, USE THE NEXT RICHER MIX. FRACTIONAL DEPTHS HAVE BEEN ROUNDED DOWN TO THE NEXT SHALLOWER WHOLE NUMBER. DEPTHS GREATER THAN 40 MSW ARE SHADED DARK. MODS FOR THE RECOMMENDED MAXIMUM EXPOSURE OF 1.4 ATA ARE LIGHTLY SHADED

Equivalent Air Depth (EAD) Tables

Equivalent Air Depth (in fsw)

Percent O2	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%
EAD fsw															
40	44	46	47	48	49	50	51	53	54	55	57	58	60	61	63
50	55	56	58	59	60	62	63	64	66	67	69	71	72	74	76
60	66	67	69	70	71	73	75	76	78	80	81	83	85	87	89
70	76	79	80	81	83	84	86	88	90	92	94	96	98	100	89
80	87	89	90	92	94	98	98	100	102	104	106	108	105	102	
90	98	100	101	103	105	107	109	112	114	116	113	109			
100	108	110	112	114	117	119	121	123	122	117					
110	119	121	123	126	128	130	132	127							
120	130	132	134	137	139	137									
130	141	143	145	148	143										
MOD/1.4 ata	145	138	132	126	121	118	111	107	102	99	95	91	88	85	82
MOD/1.6 ata	170	162	155	149	143	137	132	127	122	117	113	109	105	102	99

EQUIVALENT AIR DEPTH FOR VARIOUS NITROX MIXES. A DIVER DIVING UP TO THE DEPTH SHOWN IN THE CORRECT EANx COLUMN WOULD USE THE DEPTH IN THE LEFT-HAND COLUMN OF THE SAME ROW WITH AN AIR DIVE TABLE. SHADED AREAS HAVE A PO2 BETWEEN 1.4 ATA AND 1.6 ATA.

Equivalent Air Depth (in msw)

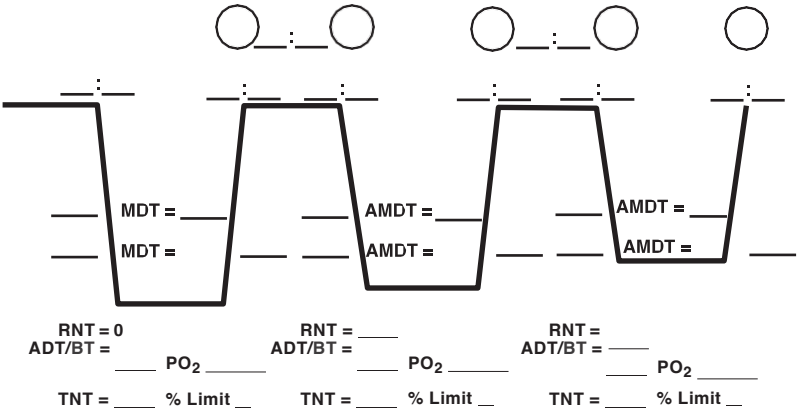
Percent O2	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%
EAD msw															
12	13	13	14	14	14	15	15	16	16	16	17	17	18	18	19
15	16	17	17	17	18	18	19	19	20	20	20	21	21	22	22
18	19	20	20	21	21	22	22	23	23	24	24	25	25	26	26
21	23	23	24	24	25	25	26	28	27	27	28	28	29	30	30
24	26	26	27	27	28	28	29	30	30	31	32	32			
27	29	30	30	31	31	32	33	33	34	35					
30	32	33	33	34	35	35	36	37	37						
33	36	36	37	37	38	39	39	40							
36	39	39	40	41	41										
40	43	44	44	45											
MOD/1.4 ata	43	41	40	38	36	35	33	36	31	30	28	27	26	25	25
MOD/1.6 ata	51	49	47	45	43	41	40	38	37	35	34	33	32	31	30

EQUIVALENT AIR DEPTH FOR VARIOUS NITROX MIXES. A DIVER DIVING UP TO THE DEPTH SHOWN IN THE CORRECT EANx COLUMN WOULD USE THE DEPTH IN THE LEFT-HAND COLUMN OF THE SAME ROW WITH AN AIR DIVE TABLE. SHADED AREAS HAVE A PO2 BETWEEN 1.4 ATA AND 1.6 ATA.

NAUI WORLDWIDE
DIVE SAFETY THROUGH EDUCATION

EAN_{32} DIVE PLANNING WORKSHEET

use with 32% oxygen-enriched air only



ADT — **Actual Dive Time** — The time from the moment of descent until arriving at safety stop.

AMDT — **Adjusted Maximum Dive Time** — (for a repetitive dive.) The no-stop time limit for a repetitive dive, minus the RNT.

BT — **Bottom Time** — Time from the moment of descent to beginning of ascent.

Letter Group — A letter symbol for the Residual Nitrogen Remaining in the body from a previous dive. Place in circle.

MDT — **Maximum Dive Time** — Maximum dive time allowed without requiring a decompression stop.

Oxygen Exposure Limit — Maximum time on a single dive that the diver can be exposed to a certain partial pressure of oxygen.

PO_2 — **Partial Pressure of Oxygen** — It is recommended that this be kept below 1.4 atm (atmospheres).

Repetitive Dive — Any dive made within 24 hours of a previous dive.

RNT — **Residual Nitrogen Time** — The time to be considered in planning a repetitive dive due to nitrogen remaining in the body from previous dives within the last 24 hours.

Safety Stop — A 3- to 5-minute stop at 5 msw (15 fsw). Strongly recommended for all no-stop dives.

SIT — **Surface Interval Time** — The time spent at the surface between dives.

TNT — **Total Nitrogen Time** — The sum of the RNT and ADT. This figure is used to obtain a letter group on Table 1 for a repetitive dive.

Remember

- Consider all dives made shallower than 6 msw (20 fsw) as 6-msw (20-fsw) dives.
- Ascend no faster than 9 msw (30 fsw) per minute (1 fsw every 2 seconds).
- ****RNT Exception Rule:** Any repetitive dives to 9 msw (30 fsw) or shallower should be summed and calculated as a single dive for accurate inert gas loading information.

Single Dive Oxygen Exposure Limits

PO_2 atm	Minutes
1.60	45
1.55	83
1.50	120
1.45	135
1.40	150
1.35	165
1.30	180
1.25	195
1.20	210

#35502-32 (Rev. 07/2019) Revisions based on U.S. Navy Diving Manual Revision 7, published Dec. 2016

NAUI INCIDENT REPORT FORM

Date of Report: _____ Time of report: _____ ☐ AM ☐ PM

Date of injury: _____ Time of injury: _____ : _____ ☐ AM ☐ PM

Name of company: _____

Address of company: _____

Activity Involved: _____ Location of incident: _____

Weather: ☐ **Cloudy** ☐ **Rain** ☐ **Snow** ☐ **Windy** ☐ **Ice**

Temp at time of incident: _____

Nature of suspected injury: _____

Treatment rendered: _____

Name of person rendering treatment: _____

TRANSPORTATION OF INJURED PERSON:

☐ Left on their own ☐ Ambulance ☐ Medical Evacuation Helicopter

---

When possible, describe what occurred in the injured person's own words:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

NAUI INCIDENT REPORT FORM

Injured Person's Information:

Name: _____

Date of Birth: _____(Month) _____(Day) _____(Year)

Address: _____
(Street) (City) (State) (Zip) (Country)

Phone Number: _____ Cell Number: _____

E-Mail: _____

Health Insurance: ☐ Yes ☐ No

Witness Information (use separate pages for statements):

1. Name: _____

Date of Birth: _____(Month) _____(Day) _____(Year)

Address: _____
(Street) (City) (State) (Zip) (Country)

Phone Number: _____ Cell Number: _____

E-Mail: _____

2. Name: _____

Date of Birth: _____(Month) _____(Day) _____(Year)

Address: _____
(Street) (City) (State) (Zip) (Country)

Phone Number: _____ Cell Number: _____

E-Mail: _____

NAUI INCIDENT REPORT FORM

Person Completing Form:

Name: _____

Date of Birth: _____(Month) _____(Day) _____(Year)

Address: _____
(Street) (City) (State) (Zip) (Country)

Phone Number: _____ Cell Number: _____

E-Mail: _____

Supplemental Information: ☐ **Yes** ☐ **No**

Witness Statements Taken: ☐ **Yes** ☐ **No**

Photographs of incident scene taken: ☐ **Yes** ☐ **No**

Diagram of incident scene prepared: ☐ **Yes** ☐ **No**

Equipment Involved in Incident: ☐ **Yes** ☐ **No**

Identify Equipment involved: _____

_____

_____

_____

_____ _____
Name of Injured Person **Signature**

_____ _____
Name of Person Completing Form **Signature**