

# **Dive Fatality Equipment Investigation**

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# Why is testing dive fatality equipment important?

- The answer might appear straight forward, but the answer might depend on why the information is needed and who is looking for it
- Many different groups have an interest into why a fatality occurred. The groups might share a common interest or they might not
- All the groups however would like more detailed information regarding the fatality to complete their goals and make diving a safer sport



# Which groups currently want equipment information?



- Law Enforcement Agencies
- Medical Examiners
- US Coast Guard
- Training Agencies
- Insurance Companies
- Law Firms
- Equipment Manufacturers
- Victim's Families
- Research Groups
- Retail Dive Stores
- The Diving Public

Law Enforcement: Conducts investigation to help determine cause of death and determine if any criminal culpability exists

Medical Examiner: Charged with determining manner and mode of death

Training Agencies: Want better instructional programs, want to protect their staff and want the sport to be safe

Research Groups: Want access to more detailed and reliable information

Families: They want answers on how and why their loved one died



Casino Dive Park,  
Santa Catalina Island  
California



# Current State of Equipment Investigation

No consistent manner in the way equipment is gathered after a fatality

No consistent manner in who is responsible for gathering the equipment

No consistent manner as to what classification the equipment should be held

- Personal Property
- Evidence
- Not held at all

No consistent manner in how the equipment is tested and when

No consensus on who should test the equipment or pay for the testing

No consensus on how long gear should be retained after a fatality occurs

This lecture is not going to solve these issues, but will hopefully raise questions that will benefit the dive community as a whole.

# Current Law Enforcement Equipment Testing Practices

## Directed By

Sheriff's Department  
Police Department  
Medical Examiner  
Coroner's Office

## Conducted By

Dive Store  
Repair Facility  
Universities  
Colleges  
Independent Consultant  
Law Enforcement  
US Navy

## Funded By

Police / Sheriff's  
Medical Examiner  
Coroner's Office  
US Navy

Equipment testing times directed by law enforcement agencies vary depending on the resources of the department and where the equipment will be tested. Law enforcement agencies should strive to have the equipment testing started immediately and completed within two weeks.

# Current Attorney Based Equipment Testing Practices

## Directed By

Defense Attorney  
Plaintiff Attorney  
Victim's Family

## Conducted By

Dive Store  
Repair Facility  
Independent Consultant

## Funded By

Insurance Companies  
Victim's Family  
Plaintiff's Attorney

Equipment Manufacturer    Defense Attorney

Equipment that had not been tested, not thoroughly tested or needed to be retested could be examined months or years after a fatality occurred. This is often the case when attorneys evaluate filing a lawsuit and conduct discovery in preparation for trial. Further testing months or years later could be impossible if the equipment was not collected, was released before the statute of limitations had expired or was held improperly.

# Potential Equipment Testing Practices

Directed By	Advantages	Disadvantages
Law Enforcement	Impartial Rapid (days to weeks) Jurisdiction / Protocols Evidence Procedures	Lack of resources Insufficient knowledge of dive equipment or diving knowledge
Medical Examiner/ Coroner	Impartial Jurisdiction	Insufficient knowledge Timeliness Lack of resources
Defense Attorney	Familiarity with subject Motivated by the case Funding Resources	Biased Timeliness
Plaintiff Attorney	Familiarity with subject Motivated by the case Funding Resources	Biased Timeliness



# Potential Equipment Testing Practices Continued

Directed By  
Disadvantages

Advantages

Manufacturer

Product knowledge  
Testing Equipment  
Resource Funding

Biased

US Navy

Testing Infrastructure  
Impartial

Timeliness  
Outside their scope of interest

USCG/other government  
agency (NTSB/FAA)

Impartial  
Jurisdiction

Timeliness  
Jurisdiction  
Bureaucracy  
Outside their scope of interest

NGO (DAN)

Impartial  
Subject Knowledge

Lack of resources  
Acceptance

# Equipment Testing Needs

Jurisdiction for the fatality

Impartial examination of the equipment

Preservation of information (detailed reports and photographs)

Timeliness

Information capture

Information dissemination

Knowledge of the equipment

Thoroughness of the investigation

Resource base (financial, test equipment, manpower)

# Law Enforcement Model

## Advantages

- Jurisdiction – Death investigation procedures part of protocol
- Existing evidence collection procedures
- Impartial examination
- Preservation of information
- Timeliness – Variable, depending on resources
- Resources (Crime labs, government agencies like AQMD)
- Information capture

## Challenges

- Timeliness – Variable, depending on resources
- Information dissemination
- Knowledge of equipment
- Resource base (financial, test equipment, manpower)
- Perception of need
- Access to resources

# Dive Fatality versus Dive Accident

**In many jurisdiction, dive fatalities are considered unfortunate accidents and nothing more. Traffic accidents are usually treated with more respect.**

**Important information that can make the sport safer could be missed when equipment is not held properly and is tested weeks or months later.**

**For example, most jurisdictions do not send a cylinder used in a dive fatality to an accredited lab for gas analysis, even when the cause of death is undetermined.**

# Equipment Investigation Begins Before the Fatality Occurs

Training needs to be conducted on how to properly handle and document equipment that has been used in a dive fatality

This training should be geared toward rescue divers, dive masters, instructors, first responders, lifeguards, fireman, chamber crews, law enforcement personnel, the Coast Guard and boat crews

These are the personnel that most likely will have contact with a dive fatality and the decedent's dive equipment. If the decedent's dive equipment is altered without the responding Detective's knowledge then any equipment findings could lead to a wrong conclusion.

The handling agency should interview anyone at the scene that could have altered the dive gear. They should not expect that a rescuer will seek them out to advise them of the changes made before arrival



**The chain of custody starts at the scene when the first person touches the dive equipment and will end at the scene if no one knows it.**



**Equipment should be held by agencies as evidence as soon as possible with any changes to the equipment documented.**

**Equipment should be secured like any other piece of evidence, in a secured evidence locker. The equipment should be photographed and tested within the first twenty-four hours.**





## What equipment should be evaluated and tested?



# Everything available



# Use of standardized procedures

**Who should be testing dive fatality equipment?**



# Suggestions for Future Progress?

- Formation of a national investigating authority
- Training of all possible first responders
- Education of law enforcement officers
- Education of coroners / Medical Examiners
- Formation of an NGO to coordinate testing
- List of testing resources (vendors)
- Development of standardized equipment testing procedures
- Expansion of efforts from general open circuit incidents
- Coordinated effort to develop financial resource base
- Development of qualification standards for testing personnel



# THE END !

