



PSDiver Monthly 84

April 2011

PSD FATALITY

John Makuch

St. Clair County Sheriff

Dive Team May 1-2011

Physical Fitness to Dive

Divers Alert Network

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GPS Evidence

NEWS

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DIVING MEDICINE

CONTINUING ED.

AND MORE!

Volume 6 * Issue 84

Greetings!

So many things have happened since the last issue – I cannot possibly share it all in one sitting. This is normally a busy time of year for me and I usually have a few recreational scuba classes lined up and one or two PSD classes. This year has been different. In my area, the hurricanes decimated the dive business and all of the dive shops in my region went out of business. My little shop is the last one left and apparently the slump is over. Our phones have been ringing off the wall. While I cannot complain, I am overwhelmed with work that I had not anticipated.

So, this issue is late and the next issue may be a combined May/June issue. I don't like doing that but it is what it is.

So let me share with you some of the things I have observed over the last month. No matter WHO or WHAT level of diver I taught, their basic scuba skills were surprisingly BAD.

My Open Water students leave my class with better basic skills than some of the advanced divers I have been working with. As I watched them and some of the other classes I taught later on it occurred to me that we do not seem to stress the need for basic scuba skills at a level commiserate with water rescue and recovery diving. I am not bashing anyone here, I am just pointing out an observation.

I began to consider the variety of skills that are necessary to the PSD when they are diving. They use and utilize basic scuba skills in one fashion or another every time

they dive. It hardly matters how you dive, you still rely on basic skills or the lessons learned from them over time.

This is an example of what I mean: If we practice a FFM removal and replacement drill, we don't violently rip it off your head unexpectedly. We tell you it is your turn and you do the drill. In the old days before industry standards forbid us from hazing new divers, we DID rip the masks off but the training we did prior was much more intense and it prepared us for the eventuality. Now, we sit in a semi circle and take turns performing a drill. It is boring, repetitive and no one wants to do it after they are certified and have had some advanced training.

But here is the thing. I watch these *advanced* divers take a deep breath, hurry to take their FFM off and sometimes frantically rush to get their backup regulator in place. This transfer might take seconds. Why the rush? Why are they having difficulty breathing on a second stage regulator without a mask on their face? In your own class – if you do this – how many of your divers will suddenly bolt to the surface because they got water in their nose?

Ok – this has never happened to *you or your* team... What if the FFM is blacked out and your divers are told to keep their eyes closed during the drill? It makes a huge difference. Now how many have a problem? **We should be better.**

Mask clearing, mask replacement and clearing, breathing on a regulator without a mask on are all basic scuba skills. Our PSD teams without exception will claim they are NOT recreational divers yet I am seeing a distinct lack of basic scuba skills that recreational divers are supposed

to have mastered. What happened? **We should be better.**

Have we gotten so far away from recreational diving that we forgot our foundation is laid upon the basic open water diver skills learned by entry level divers?

Things like weight belt ditching. Didn't we learn that in our open water class? Kinda ... we practiced taking it off but probably never dropped it because we did not want to have to go find it on the bottom of the lake. How many scuba fatalities have we read about where weights were either still in place or caught on the diver after ditching? **We should be better.**

We learned how to get neutrally buoyant but since we started diving with the team, we always dive a little heavy. Do we still have the ability to be neutral and just hover? Can we still change our depth while diving with just breath control? From what I have seen lately, I doubt it. **We should be better.**

The idea of mastering a skill is not new; defining exactly what mastery of a skill is might be if we begin to consider what that means for the PSD community.

For instance, my open water students learn how to snorkel before they earn their way to scuba. To prove to me that they

have mastered the basic skills, part of their goal is to be able to clear a fully flooded mask three times, surface and clear their snorkel with one breath and not lift their heads out of the water. Can you do that? The students from my last 4 open water classes can.

If my brand new recreational divers can clear a fully flooded face mask three times, surface and clear their snorkels on one breath would it not make sense that experienced, advanced PSDivers should be able to out do that and out do that easily? So set a goal of 4 or 5 times and see if you can do it. Why? **Because we should be better.**

I am interested in knowing if you can swim but I am even more interested in your survival skills. If you are diving, I am even more interested in your ability to handle adverse conditions, control panic in a bad situation, that you have the skill sets to solve problems and the ability and knowledge to survive if things go bad. Have you truly mastered basic scuba skills? Challenge yourself and you team and set some reasonable goals and see.


Why? - Because **we must** be better.

Dive Safe.
Mark Phillips
Editor / Publisher

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PSD FATALITY

John Makuch St. Clair County Sheriff Dive Team May 1-2011

Funeral arrangements set for dive team member

<http://www.thetimesherald.com/article/20110502/NEWS05/110502013>

May. 2, 2011

A 20 year veteran of the St. Clair County Sheriff Dive Team died Sunday after suffering a heart attack during training.

John Makuch, 56, of Algonac was rushed to St. Joseph Mercy Port Huron hospital from the Blue Water YMCA during training Sunday, according to a statement from the sheriff department.

Members of the dive team, some of whom are trained paramedics, tried to revive Makuch using an automated external defibrillator and CPR. Treatment was continued in the ambulance as well as at the hospital where he was pronounced dead.

"This is a terrible tragedy; a terrible loss for John's family, the dive team, the sheriff's office and the community as a whole," Sheriff Tim Donnellon said. "John wore many hats in our community and was very committed to the team and the Sheriff's Office."

Makuch was certified in search and rescue diving, ice diving and in 2009 earned his dive master certification. He also was a United States Coast Guard licensed captain and taught dive team members navigation, boat handling and sonar operation.



St. Clair County Sheriff's Dive Team Volunteer Suffers Fatal Heart Attack « Brotherhood of the Badge

<http://3491.blogspot.com/2011/05/st-clair-county-sheriffs-dive-team.html>

PORT HURON, Mich. (WDIV) – Authorities said a member of the volunteer St. Clair County sheriff's dive team has died after having a heart attack during training in Port Huron.

Sheriff Tim Donnellon said in a statement that 56-year-old John Makuch died at an area hospital after being rushed from the Port Huron YMCA on Sunday morning. Dive team members, who are trained paramedics, tried to revive him at the scene before an ambulance arrived.

Donnellon said Makuch joined the Dive Team in 1991 and was certified in search and rescue diving, ice diving and in 2009 earned his dive master certification. He was also a United States Coast Guard licensed captain and taught dive team members navigation, boat handling and sonar operation.

He served more than 20 years on the dive team, and was a member of the Dive Team Board of Directors and an assistant dive chief.

The Sheriff's Office Dive Team is a branch of the Marine Division and is an all volunteer organization. According to Dive Chief Wayne Brusate, this is the first death recorded since the team's inception in 1969.

Makuch is survived by his wife of 28 years, Eileen, daughter Ann Marie (and fiancé Craig), and son John. Visitation is scheduled for Tuesday from 2:30 p.m. until 9 p.m. at the Gendernalik Funeral Home in New Baltimore. A showing will be held at 9:30 a.m. Wednesday at Immaculate Conception Church in Ira Township, with Mass at 10 a.m.

God Bless and Stay Safe – BOTB

We grieve for the loss of another Brother.

We share these notices as a way to honor their commitment as well as to remind us that the work we do is dangerous. Those who work as Public Servants do so with the knowledge that their service, their work may go unnoticed and often ignored until the time they are needed. It is their nature to go when called, to act when needed and to do what is necessary at the time. Our PSD community is small and represents an elite group of those who serve the public. They are the silent and unsung and often unappreciated heroes who risk their lives for others *every time* they respond.

We grieve for the loss of another Brother.

SPECIAL to PSDiver Monthly



Physical Fitness to Dive DIVERS ALERT NETWORK

Physical fitness is an absolute essential element of dive safety. Any diver who enters the water must be able to meet the physical demands presented by an underwater environment. Public safety divers, in particular, often face less than desirable conditions such as strong currents, surge and waves as a regular part of their work environment.

It is important to maintain a high level of fitness, not only to take care of yourself, but to be able to rescue others and reduce the risks you face as a team. By improving your level of physical fitness, you will be more prepared for the demands of the job, reducing fatigue so you can focus more effectively on the task at hand. Improved fitness may also contribute to a reduced risk of injury to yourself and others. Public safety divers must have sufficient physical capability to complete essential duties in challenging environments while upholding awareness of others' needs.

Dive Fitness

A public safety diver needs to maintain a level of cardiovascular endurance, strength, flexibility and agility

that ensures he is able to execute safely each of his duties as well as perform rescues. This requires a higher level of strength, stamina, speed and overall health than recreational diving.

Cardiovascular health is imperative in diving; cardiac incidents are one of the leading causes in dive-related fatalities. Many divers who experience a cardiac incident in the water have a history of a cardiovascular condition, and would likely have experienced an incident somewhere along the line. But when it happens in the water, it happens in a highly unforgiving environment. As a diver, it is important to undergo dive physicals to make sure you are both physically and medically fit to dive. You can reduce your risk for cardiovascular disease by scheduling regular physicals, eating a heart-healthy diet, maintaining a body-mass index below 25, not smoking, limiting alcohol consumption and working to build your cardiac reserve (the amount of work

your heart is able to perform beyond what is normally required of it) with [cardiovascular exercises](#).

Cardiovascular exercises promote blood flow, helping to build your cardiac reserve. They may also help facilitate a more efficient release of nitrogen from your system after a dive. By improving your cardiovascular fitness, you may increase your endurance, which can enhance your free diving and scuba diving performance.

Incorporating strength training into your workout regimen will help to build your muscular strength, enabling you to carry equipment, climb in and out of the boat and complete rescue tows of an injured or incapacitated person with greater ease. Meanwhile, [flexibility training](#) increases your [range of motion](#), making it easier to reach equipment and maneuver both above and below the surface while helping to reduce strain and risk for injury. Agility is also an essential component as it helps a diver to quickly adapt and react,



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change direction as well as prevent injury.

Planning Your Training

It can be difficult to find the time to exercise beyond diving, but in order to maintain dive fitness it is important to have a well-rounded program incorporating 30 minutes of nondiving exercise, three times a week. Your workout program should include strength, cardiovascular and flexibility training that will help prepare you for both your land and water requirements. You should reach and maintain your target heart rate during each workout session. In order to calculate your target heart rate, first identify your maximum heart rate (220-your age); your target heart rate is 60 to 80 percent of your maximum heart rate. Don't forget to account for warm up and cool down time. This is a vital step in injury prevention that many people neglect. An adequate warm up can be as simple as doing a few cardiovascular exercises, which elevates your body temperatures, gets your blood flowing and prepares you



PSDiver – A Textbook for Public Safety Diving By Mark Phillips \$30.00

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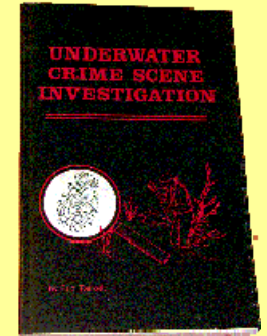
for your workout. After a workout, slow down and allow your body to cool down. This is an excellent time for flexibility training; you can stretch your muscles to reduce the risk of cramping and injury as well as gradually improve your range of motion.

Planning your workout routine around your dive schedule is also important. Limit high-intensity workouts to nondiving days, because it is possible that strenuous physical activity within 24-hours of diving may induce additional bubble formation and could contribute to an increased risk of decompression illness.

Build a Healthy Foundation

In addition to a comprehensive workout plan, it is also important to maintain balanced nutrition. It may be a good idea to ask your doctor or a nutritionist what your caloric intake should be in order to maintain a healthy weight and what kinds of foods can help improve your cardiovascular health. As a general rule, try to reduce your fat intake by choosing low-fat dairy products and lean meats. Limit your consumption of foods high in sodium, saturated fats or cholesterol and avoid trans fats. Seek out fruits, vegetables and whole grains; they are

“Underwater Crime Scene Investigation” By Eric Tackett



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rich in antioxidants and great sources of fiber, which can help to lower cholesterol and protect your heart. Finally, eat a variety of foods to ensure adequate intake of assorted vitamins, minerals and other nutrients.

Is your team fit to dive?

In order to ensure the safety of your team, certify that each member is fit to dive both medically and physically. A dive physical exam may be a good idea for many dive team members. If you have any risk factors for cardiovascular disease, consider scheduling a cardiac stress test as well. Each diver should discuss any medications he is taking with his physician in order to understand whether side effects or complications are likely. If you would like a recommendation or a consultation, call the DAN Medical Information Line at +1-919-684-2948 or contact DAN via [email](#).

If you want to enhance your knowledge and understanding of the physical requirements for diving and how to respond in an emergency situation, take a course such as [DAN Dive Medicine for Divers Part One](#), which covers fitness to dive, safety planning and basic examinations (divers interested in this program must have completed [DAN Diving Emergency Management Provider \(DEMP\)](#) and the [DAN On-Site Neurological Assessment for Divers](#)).

Divers Alert Network (DAN) is a nonprofit organization dedicated to the safety and health of recreational scuba divers. DAN operates a 24-hour emergency hotline (+1-919-684-9111) to help divers in need of medical emergency assistance for diving or non-diving incidents.

NEWS

Police search an Essex lake after severed arm is found

<http://www.bbc.co.uk/news/uk-england-essex-12935406>

1 April 2011

Police divers are searching a lake in Essex following the discovery of a man's severed arm.

The arm was discovered at a lake off Roding Lane, Buckhurst Hill at about 1450 BST on Thursday.

Officers from Essex and Kent Police said they were confident they would soon be able to identify the man.

Police confirmed they were treating the discovery as suspicious and have appealed for anyone with information to contact them.

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LOUGHTON: Police get more time to quiz lake body suspect

http://www.guardian-series.co.uk/news/efnews/8954262.LOUGHTON_Police_get_more_time_to_quiz_lake_body_suspect/

5th April 2011 By Dominic Yeatman



Divers pulled the body from the Serpentine after a walker spotted it.

Photograph: Dan Kitwood/Getty Images

POLICE have been granted another 36 hours to question a man arrested over the death of taxi driver Anthony Whitefield.

A severed arm belonging to Mr Whitefield, 47, was found by anglers in a lake off Greensted Road in Loughton on Tuesday (March 31).

Police divers found another arm belonging to Mr Whitefield at the lake on Saturday.

The father-of-five, of Bryony Close in Loughton, has not been seen since leaving his partner's house in Loughton on February 8.

A 53-year-old man from Loughton was arrested on Friday night (April 1) in connection with Mr Whitefield's death, and police have been granted a warrant to continue questioning him until 9.40pm this evening (Tuesday).



LOUGHTON: Police given more time to question lake body suspect

Body Found in Serpentine

<http://www.guardian.co.uk/uk/2011/apr/06/body-serpentine-hyde-park-lake/print>

Visitors to Hyde Park on the hottest day of the year so far are told to move away as police divers recover corpse from the lake

6 April 2011

A body has been found in the Serpentine lake, in [London](#). Police divers dragged a man from the water, in Hyde Park, at lunchtime after a walker spotted the corpse in the water. Detectives say the death is being treated as "unexplained".

Visitors to the park on the warmest day of the year so far were told to move away as police put a cordon up around the immediate area.

A Scotland Yard spokesman said: "We were called at around 11:50 today to the Serpentine to reports that a body had been seen."

"Marine support teams recovered a man's body."

The Serpentine will be the centrepiece for the London 2012 Olympics triathlon and 10km marathon swimming event.



Mom plunges minivan with kids into river

http://www.upi.com/Top_News/US/2011/04/13/Mom-plunges-minivan-with-kids-into-river/UPI-88181302694616/#ixzz1KjjQV9XQ

April 13, 2011 VIDEO ON SITE



NEWBURGH, N.Y., April 13 (UPI) -- A woman drove her minivan into the Hudson River, killing herself and her three young children, police in Newburgh, N.Y., said Wednesday.

Police identified the mother as Lashandra Armstrong, 25, the Middletown Times Herald-Record reported.

Police divers found her and two boys, ages 5 and 2, and an 11-month-old girl dead inside the van around 9 p.m. Tuesday.

By the time rescuers arrived at the scene, the vehicle was several yards from shore and underwater. A tow truck was needed to retrieve it.

At a City Hall news conference, police said a 10-year-old boy apparently crawled out through a window, somehow got to shore and was picked up by a passerby, who took him to a fire station.

The woman had apparently driven off a boat ramp near Gully's floating restaurant.

"It's a horrible sight, all of them in the car, Newburgh Police Chief Michael Ferrara said.

Ferrara said the incident may have been related to a domestic dispute called in around 7:45 p.m. Police have spoken with Jean Pierre, father of the three younger children, but no charges have been filed.

Newburgh is 60 miles north of New York City.



Mother Kills Self and 3 of Her Children Driving Van Into River

<http://onlinenewswebsite.com/mother-kills-self-and-3-of-her-children-driving-van-into-river/107013/>

April 13, 2011 Writer Tony Thompson

New York mother of 4 drove her minivan into the Hudson River Tuesday night, killing herself and 3 of her children.

Lashaun Armstrong, the woman's 10 year-old son, managed to open a power window on the submerged minivan. He escaped and swam to shore, authorities said.



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Fire Chief Michael Vatter said Lashaun was picked up by a passer-by and was taken to a nearby fire station in Newburgh, New York.

Lashaun was soaking wet, suffering from a mild case of hypothermia, and said his mother had driven the vehicle into the river, according to the fire official.

After an hour long search they found the van submerged in 8 feet of 45-degree water, about

25 yards offshore, Vatter said. Police divers discovered the bodies of Lashandra Armstrong, 25, an 11-month-old girl, a 2-year-old boy and a 5-year-old boy.

According to Newburgh Police Chief, Michael Ferrara, police investigation into the incident indicates that the mother intentionally drove the vehicle into the water. An autopsy is scheduled for Wednesday on the four bodies.

A relative had called the police prior to the incident, reporting a "domestic disturbance" that may have involved Armstrong's husband, Jean Pierre, police said. By the time police got there she and her 4 children were gone. Pierre was questioned, but Police would not give details of the interview or say if the father of four had been charged with anything.

Newburgh Mayor Nicholas Valentine said, "The whole scene surrounding what occurred in Newburgh last night will have a lasting effect on this city."



More: Mother in Hudson River drowning laid to rest

<http://www.pocorecord.com/apps/pbcs.dll/article?AID=/20110421/NEWS90/110429943/-1/NEWS>

April 21, 2011 By Times Herald-Record

SPRING VALLEY, N.Y. — The young mother who took the lives of three of her small children — as well as her own — when she plunged her minivan into the Hudson River last week, was laid to rest Thursday in an upstate New York cemetery.

LaShanda Armstrong, who was 25, loaded her four kids into her minivan April 12 and drove it into the cold and murky Hudson River about 60 miles north of Manhattan following a reported domestic dispute with the father of three of the children.

Five-year old Landen, two-year-old Lance and 11-month-old Lainaina all died. A fourth child, 10-year-old Lashaun Armstrong, was able to free himself from the car before it completely submerged.

The funeral for the three deceased children is scheduled for Monday, the Times Herald-Record reported.

The father of the three drowned children, 26-year-old Jean Pierre, said Wednesday

night that he would bury the children 10 miles away from their mom in a different cemetery.

Pierre's decision has aggravated the grieving friends and family of Armstrong.

"Those are her kids, they came from within her. Those are hers, they should be with her," family friend Michael Lake told WCBS-TV.

Pastor Weldon McWilliams, in his eulogy for LaShanda Armstrong, said that, despite efforts to keep her apart from her children in their burial, they will always be together.

City of Newburgh police divers found the minivan submerged in water 25 yards offshore, near Gully's Restaurant, at the end of a boat ramp. The occupants were dead by the time the divers arrived, police said.

Gruesome search for human remains in Huddersfield's canal and River Calder

<http://www.examiner.co.uk/news/local-west-yorkshire-news/2011/04/06/gruesome-search-for-human-remains-in-huddersfield-s-canal-and-river-calder-86081-28467483/#ixzz1KjvTtocm>



Police are searching Huddersfield waterways for Adam Vincent

Apr 6 2011 Huddersfield Daily Examiner

A GRUESOME search is being carried out in Huddersfield for human remains.

Police divers and forensic experts are searching the River Calder and the Calder and Hebble Canal at Colnebridge for body parts belonging to a murder victim.

Adam Vincent, 33, is thought to have been killed and dismembered.

Parts of his body have already been found in Lincolnshire.

Mr Vincent's leg was discovered on March 3, followed by a torso and an arm. His other limbs and head remain missing and searches are also continuing in Lincolnshire.

But now the search has switched to West Yorkshire and to the two waterways at Colnebridge.

It is believed police have been given detailed information about where some of the remains may have been dumped.

Detectives from the Humberside Police Major Incident Team are working with



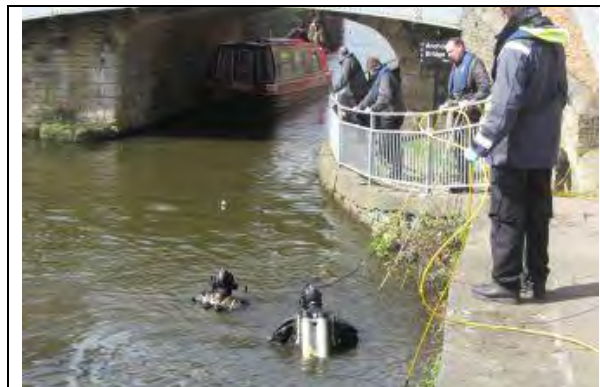
officers from West Yorkshire Police in order to carry out searches in the Colnebridge area.

It follows a possible sighting of a white-coloured Ready Rent a Van Ford Transit van at the scene.

Police believe it may have been used to dispose of Mr Vincent's body.

The vehicle was seen in Colnebridge between March 1 and 7.

The searches include West Yorkshire Police underwater search officers and are expected to be taking place for the next couple of weeks.



ONGOING INVESTIGATION: Police divers search the canal in Brighouse, Yorkshire, for body parts.

The searches form part of the ongoing investigation into the suspicious death of the Grimsby man.

Det Chief Insp Mark Oliver said: "West Yorkshire Police are searching the River Calder and the Calder and Hebble Navigation in response to a sighting of the van.

"It is important for the family of Adam Vincent as well as to progress the investigation that we recover the remains and will do all we can to make this happen."

Mr Vincent's father Keith has said his son's murderers have destroyed his and his family's lives.

A human leg was discovered by a passer-by at Tetney Lock in Lincolnshire last Thursday and further remains were found by police on Friday and Sunday.

After post-mortem tests, police named the victim as Mr Vincent, formerly of Alexandra Road, Grimsby. Father Keith Vincent said: "Somebody out there must have a conscience."

MORE: Divers trawl Calderdale waterways for murdered man's body parts

http://www.halifaxcourier.co.uk/news/local/divers_trawl_calderdale_waterways_for_murdered_man_s_body_parts_1_3290959

15 April 2011

THE search for a murdered man's dismembered body has moved to Calderdale.

Police divers have been combing the River Calder in Brighouse and the Calder and Hebble Navigation near the town's Anchor Bridge looking for



Adam Vincent's missing body parts, including his head.

An investigation into the death of the 33-year-old from Grimsby was launched last month after a leg, arm and his torso were found at Tetney Lock in Grimsby.

Officers moved their search to West Yorkshire after a reported sighting of a white Ford Transit in Colne Bridge, Huddersfield – the same kind of vehicle believed to have been used to dispose of

his body.

Five men have appeared in court in Grimsby accused of conspiracy to murder.

A spokesman for Humberside Police said: "Officers are still carrying out searches in the West Yorkshire area working with local officers.

"We are determined to do everything in our power to locate Mr Vincent's remains."

Mr Vincent was described as a polite



man and talented artist who could often be seen sitting outside shops and banks in Grimsby town centre, sometimes sketching.

MORE: Search for body parts goes on as five men attend court

<http://www.thisisgrimsby.co.uk/news/Search-body-parts-goes-men-attend-court/article-3451834-detail/article.html>

April 15, 2011

FIVE men have appeared in court charged with conspiracy to murder [Adam Vincent](#), whose body parts were discovered near Tetney Lock.

They appeared at [Grimsby Magistrates' Court](#) yesterday, charged with conspiring to murder the 33-year-old in Grimsby between February 1 and March 4.

[Lee Griffiths](#), 42, [Matthew Frow](#), 31, [Luke Griffiths](#), 19, [Thomas Griffiths](#), 21, and [Mark Jackson](#), 26, have already appeared at court charged with conspiracy to pervert the course of justice by dismembering Mr Vincent's body and disposing of evidence.

The men spoke only to confirm their names, dates of birth and the prisons where they are currently being held in custody.



The late Adam Vincent, pictured during a fishing trip to Aby fishing ponds.

As well as the conspiracy to murder charges, the five men were told they face charges of conspiring to supply heroin between December 1 last year and March 7.



[Martin Howarth](#), prosecuting, said the conspiracy to murder and dismember charges were so serious that they could only be dealt with at crown court.

He invited the court to commit the five men to appear at [Sheffield Crown Court](#) on April 20.

Their latest court appearance comes as police continue to extend their search for more of Mr Vincent's body parts in the Calder and Hebble Navigation waterway, near Huddersfield, West Yorkshire.

Yesterday, police divers moved their search for evidence to the section of the waterway flowing through the town of Brighouse.

It follows a possible sighting of a white rental van believed to have been used in the disposal of Mr Vincent's body.

As reported, one of Mr Vincent's legs was discovered at Tetney Lock on March 3, followed by his torso and an arm.

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His other limbs and head remain missing.

There were no applications for bail and the men were all remanded in custody

Family searching for son find body parts in Amsterdam

<http://www.belfasttelegraph.co.uk/news/local-national/republic-of-ireland/family-searching-for-son-find-body-parts-in-amsterdam-15146062.html#ixzz1KjujDJSF>
22 April 2011 By Louise Hogan

The family of an Irishman missing in the Netherlands for over a week have found body parts as they searched a canal yesterday.

After informing the Dutch police, divers then retrieved the parts from the waters in Amsterdam.

The body parts were located close to a point where shredded clothing belonging to Paul Nolan Miralles (36), originally from Clonsilla, Dublin, was located earlier this week.

Mr Nolan Miralles, who worked in Amsterdam's Hard Rock Cafe, was last seen by a friend around 4am on April 13, as he prepared to cycle to his home around 15 minutes away.

A Dutch police spokeswoman yesterday said they were still awaiting DNA analysis on another body part, described as a shoulder, taken from the canal earlier this week.

A shredded jacket, t-shirt and bag retrieved by police from close by have been formally identified by the family.

It is believed his body may have been struck and dismembered by a tourist boat on the busy canal.





The police confirmed that the family had located new body parts while searching from a boat yesterday morning.

Mr Nolan Miralles' Spanish-born mother, Rosario, who lives in Dublin, his German girlfriend Elsa Wirrig, his brother Jaime and sister Anne Ravanona have all taken part in searches.

The family organised a major publicity blitz to circulate hundreds of leaflets in the city and also set up a website to appeal

to the public for help in tracing him.

Dutch police are still keeping an open mind on whether Mr Nolan Miralles may have accidentally fallen into the water or ended up in the canal after a possible attack.

10-year-old survivor's grandmother says he needs father - and prayers

La'Shaun's dad can't help much; he's in prison

<http://www.recordonline.com/apps/pbcs.dll/article?AID=/20110425/NEWS/104250317/-1/SITEMAP>

04/25/11 By [Doyle Murphy](#) Times Herald-Record

CITY OF NEWBURGH — On a recent afternoon, 10-year-old La'Shaun Armstrong straddled a green and black bicycle and dug into the pedals.

He leaned over the handlebars as the wheels cranked faster and faster. Boy and bike raced up the sidewalk in front of his old

apartment on William Street. Up and back. Up and back. News cameras had followed him since that terrible night at the river, but La'Shaun's family had managed a few hours of space for the afternoon to return to the apartment.

An aunt watched La'Shaun as he pedaled. Upstairs in the brick building, other relatives packed up belongings from the space the little boy had once shared with his mother, Lashandra Armstrong, and three siblings — 5-year-old Landen Pierre, 2-year-old Lance Pierre and Lainaina Pierre, who would have been a year old had she lived another eight days.

Related Stories

- [3 drowned Newburgh siblings are buried together](#)
- [Drowned children buried in Congers cemetery](#)
- [News media rush to cover drowned mom's funeral](#)



Lashandra Armstrong, 25, of Newburgh and son Lance Pierre, 2.

- [Friends join family in sorrow over death of Armstrong](#)
- [Steve Israel: It doesn't take a river to say 'I Love You'](#)
- [Drowned mom, kids 'are together,' pastor says](#)
- [VIDEO: Final Goodbye](#)
- [Funeral services of mom in Newburgh drownings over; 'They will be together,' pastor says](#)
- [Dad won't bury drowned kids with mom](#)
- [VIDEO: Funeral services held for LaShandra Armstrong](#)
- [Family of Hudson River tragedy celebrates girl's 1st birthday](#)
- [Father of 3 children drowned in Hudson will hold private service for them Monday](#)
- [A week later, city still grieving at river](#)
- [VIDEO: Memorial service for victims of the Newburgh waterfront tragedy](#)
- [10-year-old survivor of Newburgh tragedy visits with friends](#)

To help La'Shaun

The family of La'Shaun Armstrong has set up a foundation through JPMorgan Chase to help La'Shaun. Donations can be made to Armstrong's Angels Foundation at any branch of JPMorgan Chase.

Lashanda Armstrong had argued with the youngest children's father, Jean Pierre, on April 12, loaded up her children into a minivan and drove them into the Hudson River. Police divers later found the van's gear shift in

reverse, as if Armstrong had changed her mind, but it was too late. Only La'Shaun survived.

The part of his life on William Street disappeared the instant the van hit the cold water. But for a few moments, on a sunny afternoon the day before his mother's funeral, La'Shaun pedaled and laughed until it was time to put the bike away and move on.

Taking care of La'Shaun

When Armstrong drowned herself and the three other children, La'Shaun rolled down the minivan's window and swam to safety. He emerged from the water to face a complex future. The adults in his life have already begun to figure out what happens next. Datrice Armstrong, who is Armstrong's mother, said she will take over care of her grandson.

La'Shaun's father, Todd Johnson, told WABC-TV he still hoped to be a part of his son's life. "This is a painful and horrendous situation, and his father doesn't need to be away from him anymore," he said.

Johnson, however, doesn't have a choice for the time being. He's serving time at Woodbourne Correctional Facility on a robbery conviction and won't be eligible for release until August 2012. Datrice Armstrong said she had taken La'Shaun to see his father in the past, and she planned to speak to him soon about his son's future. She said she had no problems with Johnson, but there was

still much to discuss. She agreed with what Johnson told the television station about La'Shaun.

"He needs his father," Datrice Armstrong said. On Monday, La'Shaun's two younger brothers and baby sister will be buried in Congers after a private service in Spring Valley. The cameras will turn to other stories, and life for most people will return to normal.

Datrice Armstrong said they're moving forward with La'Shaun.

"Day by day," she said. "Pray for us."

Divers hunt crashed cocaine plane

<http://www.krqe.com/dpp/news/crime/divers-hunt-crashed-cocaine-plane>

26 Apr 2011 **VIDEO ON SITE**

HERON LAKE, N.M. (KRQE) - New Mexico State Police divers will be back out at Heron Lake Tuesday as they keep up the search for a small plane that crashed Sunday leaving bundles of cocaine floating in the water.

Divers have found human remains although they don't know if they are from just one person.

More than 20 bundles of cocaine have floated to the surface. Searchers are also using sonar technology to try and locate the bulk of the wreckage.

The lake remains closed to the public while search efforts continue.

New Jersey woman found dead in car submerged in Candlewood Lake

<http://www.newstimes.com/news/article/New-Jersey-woman-found-dead-in-car-submerged-in-1352609.php#ixzz1KjqJRd9F>

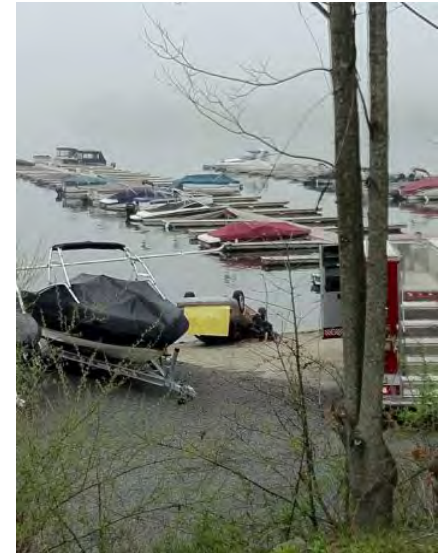
April 26, 2011 Libor Jany and John Pirro, Staff Writers

BROOKFIELD -- Police have identified a 26-year-old Teaneck, N.J., woman as the person who was found in a sunken car in Candlewood Lake on Tuesday morning.

Celeste Tonia was pronounced dead at the scene after police divers pulled her body from the 1995 Ford Taurus, which was submerged in nine feet of water at the Echo Bay

Marina about 25 yards from shore, Brookfield Police Major [Jay Purcell](#) said.

The car was spotted by a marina worker just after 7:20 a.m., police said.



Purcell said there was "nothing overly suspicious about the death" and that police do not believe it was the result of criminal activity, but investigators have no idea how Tonia ended up in Brookfield.

At this time, it is considered an "unusual death," Purcell said. "Police at this time are not aware of any ties to Brookfield that might have brought her here."

Teaneck police Sgt. Kevin Marrero said Tonia's father attempted to file a missing persons report regarding his daughter Tuesday morning, even as the investigation in Brookfield was unfolding.



Celeste Tonia's parents, Robert and Evelyn Tonia, declined to comment when contacted by The News-Times on Tuesday afternoon.

"We have no comment. It's still being investigated by the police department," Robert Tonia said.

Celeste Tonia entered a cryptic final posting on her Facebook page at 3:21 a.m. Sunday.

"No excuses, just a simple goodbye," was all it said. The post received just one response -- "what??" posted earlier Tuesday.

Purcell was noncommittal when asked if police had ruled out suicide, and he said the department would release no further information pending an autopsy by the state medical examiner.

Tonia was registered as an online student at [Ashford University](#) in Iowa, with a projected graduation date of 2015, a college spokeswoman said Tuesday.



Purcell said police in diving gear and firefighters in cold-water rescue suits broke a window to remove Tonia and bring her to shore, where emergency medical personnel determined that she was dead.

No one else was in the vehicle, but divers conducted "a thorough area search" to make sure there were no additional victims, he said.

Lakeland teenager loses leg in personal watercraft accident

Florida Fish and Wildlife Conservation Commission
<http://www2.tbo.com/content/2011/apr/26/PMENEWS06-lakeland-teenager-loses-leg-in-personal-/>
April 26, 2011 From staff reports



This is one of the personal watercraft involved in a weekend accident that cost a girl her leg.

LAKELAND - Police divers spent most of Monday morning in Lake Gibson searching for the severed leg of the 14-year-old girl involved in a watercraft accident this weekend.



Florida Fish and Wildlife Conservation Commission officers are in charge of the investigation. They say it appears the 14-year-old was riding one personal watercraft parallel to another driven by a 15-year-old girl. The 14-year-old turned left in front of the other vessel, causing the impact that severed her left leg below the knee.

Gary Morse, a spokesman for the Fish & Wildlife Commission, said there was nothing the 15-year-old girl could do to avoid the crash Sunday.

"They don't have brakes, and when you take the power off you lose steering on them."

Morse did say the girls were both wearing life jackets, but neither had taken a state-required boating safety course.

"It goes over the rules of the road, and that's particularly important here because one of those rules was violated, and a girl lost her leg as a result," he said.

Morse said detectives are conducting a criminal investigation. Once that investigation is complete, Fish & Wildlife officers will forward their findings to the State Attorney's Office. The state attorney will determine whether any charges will be filed. Investigators did not release the girls' names.

Texas Equusearch joins search for missing 13-year-old eastern New Orleans boys

http://www.nola.com/crime/index.ssf/2011/04/texas_equusearch_loking_for_m.html

April 27, 2011, By Leslie Williams, The Times-Picayune

The director and founder of [Texas Equusearch](#), which specializes in finding missing people, has joined the effort to find two 13-year-old eastern New Orleans boys who have been missing since Easter.

In January, Tim Miller, the company's founder, came to Louisiana to assist with [the search for Brian Reed](#), brother of Baltimore Ravens safety Ed Reed. He combed the river near the St. Charles Parish line. His nonprofit company, which has assisted in almost 1,200 searches in the past 10 years, brought boats, sonar equipment and divers to Kenner. The body of Brian Reed, 29, of St. Rose, was found in the Mississippi River at Kenner.



Leslie Williams, The Times PicayuneDenise Liset, right, of the Louisiana Search & Rescue Dog Team gets the attention of Nola, a Belgian Malinois, after a search Tuesday afternoon east of Lincoln Beach.

Officer Shereese Harper said at this point she does not know the scope of Miller's involvement.

Eddie Selby, commander of the New Orleans Police Department's Special Operations Division, has said today's high winds likely will keep divers and boats out of the water.

On land, trained dogs -- Nola, a Belgian Malinois and Tracker, a chocolate Labrador -- scoured the former



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Lincoln Beach amusement park area along Lake Pontchartrain near [Hayne Boulevard and Vincent Road](#) Wednesday morning.

"We started about 10 a.m. and finished about 11:30 a.m.," said Denise Liset, a member of the Louisiana Search & Rescue Dog Team and Nola's handler. "All we found was a lot of trash and a lot of disappointment."

Liset and Gary Lea, Tracker's handler, were accompanied by New Orleans firefighters and three armed escorts, who

were requested after someone speculated an alligator might be on the property.

Aaronne Mitchell and Aaronne Russell were last seen Sunday at 11 a.m. walking Buddy, an adult mixed-breed pit bull, and a pit bull puppy. Buddy's owner, Angela Kinler, said the boys told her they were going to Lincoln Beach, one of the historic swimming areas on the south shore of Lake Pontchartrain.

State, federal and private agencies have participated in the search. More than four thousand nautical square miles -- covering land and water -- have been covered by



MISSING: Townspeople watch as the body of the drowned man is retrieved.
Picture: Sithandiwe Velaphi

the New Orleans Police Department, the New Orleans Fire Department, New Orleans Homeland Security and Emergency Preparedness, Louisiana Search & Rescue, New Orleans EMS, [Gulf States Dive and Rescue](#), U.S. Coast Guard, the St. Tammany Sheriff's Office, EquiSearch and the American Red Cross, according to NOFD. NOFD crews performed deep boat and shallow water searches using skiffs and flatboats. One rescue boat with 2-person dive team and side scanning sonar searched the waters of Lake Pontchartrain.

Harper said she was not aware of any other developments.

Divers Fish Out Floating Body

[http://www.thenewage.co.za/16490-1016-53-](http://www.thenewage.co.za/16490-1016-53-Divers_fish_out_floating_body)

[Divers_fish_out_floating_body](#)

4/27/11 *Sithandiwe Velaphi*



SA police Service divers from East London yesterday retrieved the body of man who is believed to be 38 years old from Gcuwa River under Gcuwa Bridge in Butterworth yesterday.

Police spokesperson Capt Jackson Manatha said the body of a man was seen floating on the river by a passerby who raised the alarm. The body was stuck in the bushes in the flowing water.

It is believed to be that of a man who went missing on April 8. Members of the community had spent several hours searching for the man's body.

Manatha said: "His identity will be revealed once his next of kin have been informed. Butterworth police have opened an inquest docket." In January, East London police divers also retrieved the body of a 30-year-old man from the same bridge.

FOUND ON THE WEB

Enhancing Investigations with GPS Evidence

<http://www.dfinews.com/article/enhancing-investigations-gps-evidence>

By Ben LeMere

The value of collecting evidence from GPS devices has been well established over the last several years. GPS evidence has played a major role in several high profile cases ranging from terrorism to homicide to kidnapping. Most of the time as investigators, we tend to focus on collecting evidence as part of criminal investigations, however GPS evidence can play a significant role in many other types of investigations such as accident reconstruction and search and rescue cases. Most investigators think in terms of being able to obtain GPS evidence in the form of the "breadcrumb trail" known as trackpoints, but much more data is available from these devices. This article will provide some basic information on the types of evidence and devices an investigator may come across.



Standard GPS Data

There are four main types of data that are constantly available across almost all GPS devices. These data types can be divided into two categories: system level information and user inputted data.

System Level

- **Trackpoint:** A trackpoint is a location stored by the unit as a record of where the GPS has been. When the GPS unit is turned on, and has acquired satellites, it will begin to record an "electronic breadcrumb trail." The trackpoints are created automatically by the unit and cannot be changed by the user. The unit, by default, automatically decides how often to create trackpoints. The user may also specify to create track points based on a specific time or distance interval.



Track Log: The track log is the complete list of trackpoints that the unit has created. This track log is created such that if a user wants to retrace his or her steps, it is possible to perform a TrackBack. The unit will then navigate the user from point to point in the track log to take the user back to his or her starting location.

User Data

- **Waypoint:** A waypoint is a location that a user stores in the GPS. This location can be a point where the user was physically present and wanted to store, or it can be a location that the user enters into the unit from

coordinates, as an address, or selects a point of interest (POI) to which the user wants to navigate in the future.

- **Route:** A route is a series of waypoints that the user wants the unit to navigate in a specific order. The advantage of using a route is that upon arrival at an intermediary waypoint, the unit automatically starts navigating the user to the next waypoint in the route. Generally speaking, system level information like trackpoints, can be used to prove actions, as they show that a device has been to a specific location. User data like waypoints, can be used to show intent, as user inputted data does not prove that the device has been to the location specified in the waypoint but it can show intent to go to the location.

Device Categories

There are four main categories of GPS Devices or Portable Navigation Devices—Automotive, Aviation, Maritime, and Handheld—the most popular being automotive devices. The handheld category includes a range of devices used for hiking, biking, geocaching, fitness, golf, etc.



Device Types

There are four basic types of devices in the portable navigation marketplace; simple, smart, hybrid, and connected. Smart devices are the most proliferated devices as they are easily accessible to consumers at mainstream retail outlets.

Simple:

Simple devices are devices that are basic in nature and used to navigate from point A to point B. They may or may not have the ability to store maps or plot a location on a map. They are also generally capable of storing trackpoints, tracklogs, waypoints, and routes. On average they will hold 10,000 trackpoints and will have a serial or USB connection.

Smart:

Smart devices generally fall into the automotive category and are USB mass storage devices. They normally have at least 2 GB of internal data storage and an SD card slot. They are more consumer friendly and have features like point of interest lookup, the ability to save favorite locations like home or office, a built-in picture viewer, and an mp3 player. They will also store the same GPS type information as a basic device: trackpoints, tracklogs, waypoints, and routes. Not all smart



devices will save trackpoints, but a vast majority will.

Hybrid:

Hybrid devices will have the same characteristics and features as a smart device but will also have a Bluetooth radio that allows the GPS device to connect to a mobile phone. This connection allows the GPS device to be used as a hands free calling device. Devices that have been connected to a mobile phone

and used for hands free calling will generally have call logs (incoming, outgoing, and missed), an address book (which is normally imported from the mobile phone), the MAC address of the last ten mobile phones connected to it, and sent and received SMS messages.

Connected:

Connected devices have the same characteristics and features as hybrid devices but with one additional capability. They have an embedded GSM cellular radio and SIM card that has GPRS data service enabled. Connected GPS devices offer real-time online content from fuel prices to Google searches to live traffic updates. However, these services require a subscription. To help encourage users to buy into these high-end devices, companies



will offer the first 1-2 years of service for free.

Evidentiary Value

Trackpoints are the Holy Grail in GPS forensics. They are the electronic breadcrumb trail that tells an investigator exactly where and when the device was in a specific location. With trackpoints, criminal acts can be pinpointed down to almost the exact second a crime was committed. Almost all GPS devices collect trackpoints but even without trackpoints, GPS devices still hold a significant amount of data. Waypoints and routes will show the location to which the user intended to navigate location was put into the device. Hybrid devices that have been connected to a mobile phone will contain much of the same information that an investigator would find on a mobile phone: call logs, SMS messages, and contacts. These can prove very valuable, particularly when paired with a track log. The call logs and track logs allow an investigator to see what time a phone call was made and from what location.

Because some of these devices are USB mass storage devices, any type of file could be found. Pictures, videos, documents, password files, encrypted containers, anything that can be stored on a computer can be stored on a USB mass storage GPS device. Connected devices add the complexity of having online content associated with them. Web history like Google searches, white pages lookup, etc. can

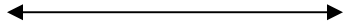
all be critical information when assembling details for an investigation.

In closing, GPS forensics is still an emerging field in the mobile devices community. As device manufacturers continue the race to win consumers and battle to convince customers they still need a dedicated navigation system, the sources of location based data relevant to an investigation will only continue to grow. True GPS forensics used to be limited only to dedicated navigation systems but has moved more into the Geo Referenced meta-data realm. GPS Forensics Specialists now find themselves analyzing smart phones, cameras, tablets, personal trackers, all for location based information.

***Ben LeMere** is a Senior Forensic Specialist and currently serves as a contractor, through Basis Technologies, for the U.S. Government as a certified Computer Forensic Examiner where he specializes in mobile device exploitation. He has more than 14 years of military and federal government service, and his career has afforded him extensive technical, analytical, and operational experience. Ben also serves as a technical consultant and instructor for BerlaCorp. He is widely recognized as a*

subject matter expert in GPS forensics and was responsible for developing and implementing one of the first GPS forensic analysis programs for the Department of Homeland Security.





The following photos were discovered and used by members of the Beaumont Water Response Team (Texas) to locate an abandoned boat. It is believed to be a casualty of Hurricane Ike. The boat was originally located while surveying an area for lakes using Google Earth. The boat was not visible on the satellite images until the zoom was increased almost to maximum.





GWS, Satellite systems and mapping tools should be included in the Water Rescue and Recovery Team toolbox. Finding this particular boat was interesting. It was located in an area not normally frequented by the team and was located by zooming into a particular area using Google Earth.

Because the magnified satellite images were so good, team members were able to determine a route to take through the woods to get to the location.

This is but one example of how new – even free – technology can be used to augment your teams training, equipment and knowledge.

What have you found?

	<h2>Diving Medicine Online</h2> <p><u>Ernest Campbell, MD, FACS</u></p> <p>Comprehensive information about diving and undersea medicine for the non-medical diver, the non-diving physician and the specialist</p>
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**Fitness to Dive:
Eye Problems and the Instructor
Part 1 - <http://scuba-doc.com/fitdiveeye.html>**

THE EYE AND DIVING

The ocular aspects of scuba diving and other hyperbaric exposures were reviewed in a landmark paper by Dr. Frank Butler in 1995. [Butler FK: *Diving and hyperbaric ophthalmology*, *Surv Ophthalmol* 39:347, 1995.] Most of the material included here are condensations of sections of that paper and more recent articles reviewed by Dr. Butler.

Pressure and the Eye

Normal intraocular pressure as measured by a tonometer is usually read as 15 mm. Hg. This is absolute "gauge" pressure and is actually 775 mm of Hg. [775 less 760 =

15]. The eye ball is fluid filled and changes in pressure are experienced equally throughout the eye. Any gas in the eye will be affected by pressure changes as would any other gas containing space and decrease in size with depth and increase in size with ascent. [Boyle's Law].

Eye Considerations in the Fitness-to-Dive Evaluation

---Ability to see.

A diver should have adequate visual acuity to be able to read his or her gauges and perform safely underwater. Possession of a driver's license is corollary evidence that a potential diver has sufficient visual acuity to meet this standard.

---Recent eye surgery

A person who has recently undergone ophthalmic surgery should refrain from diving until the recommended convalescent interval has passed.

---Glaucoma

Individuals who suffer from glaucoma may dive safely unless they have had 'filtering' surgery performed. Medications [carbonic anhydrase inhibitors] are best avoided in glaucoma patients who wish to dive because of possible confusion between medication-induced neurological symptoms [paresthesias] and decompression sickness.

---Acute eye disorder

Any individual who is suffering from an acute ocular disorder that causes significant pain, decreased visual acuity, or other disabling symptoms should refrain from diving until these symptoms resolve.

---Gas Bubble in the eye

Gas bubbles are occasionally placed in the eye to stent the retina against the retinal pigment epithelium after repair of retinal detachments. This is an absolute contraindication to both diving and hyperbaric chamber exposures. Diving with a gas bubble may cause pain on descent due to compression of the globe as the gas phase is compressed. Extra gas diffuses into the bubble and the absolute pressure is reduced, the bubble grows and intraocular pressure rises.

Considerations in Fitness to Dive Evaluations

Guidelines have been published on medical standards for divers which include considerations concerning the eye. Visual considerations differ extensively according to whether the diving is to be recreational or occupational.

Fitness to dive evaluations are most often done in one of two settings; either recreational or occupational. The first evaluation requires a decision based entirely on medical safety considerations for the patient.

A dive evaluation done in an occupational setting in which a patient who is currently or hopes to be a military or commercial diver is evaluated by a physician who works for the organization in question, with interests of both the organization and the prospective employee. Economic,

medico legal and liability considerations effect considerations in decisions about diving fitness in the occupation setting.

The fitness to dive considerations for sport divers should focus only on medical safety and attempt to address three issues:

1. Does the condition impair the individual in such a way as to endanger himself or his associates in the hazardous hyperbaric environment (e.g. inadequate visual acuity);
2. Is the condition one which may be made worse by hyperbaric exposures (e.g. Neurological residua from DCS);
3. Would hyperbaric exposures possibly result in complications from a pre-existing condition (e.g. vision threatening barotrauma from diving with intraocular gas).

Contra-indications to Diving from Eye Problems

- **Post-operative gas in the eye**
Diving should not be allowed early in the post-operative period because of the possibility of gas having been inserted purposefully or inadvertently. Boyle's Law dictates that the air will change in volume inversely in proportion to the depth and the possibility of injury to the eye would be great.
- **Hollow orbital implant**
The implant would implode at depth, severely injuring the orbit and endangering the diver.
- **Any acute disorder**
Pain, double vision or decrease in visual acuity

would interfere with the problem solving and decision making process of the diver.

- **Recent eye surgery** within the convalescent period.
- **Visual problems from previous DCS or AGE.**

Glaucoma

Where there is loss of vision severe enough as to make it dangerous for them to function in an underwater environment.

Divers who have undergone recent glaucoma filtering surgery. A minimum of two months convalescence is recommended after this procedure.

Functioning filters are a relative contraindication to diving. There are two basic types of glaucoma filtering surgery. In one type, a fluid drainage hole is created in the eye wall, and in the other type, a plastic drainage device is implanted through the eye wall. After both types of surgery, fluid from the eye drains out of the eye into a pocket behind the eyelids and is absorbed into the blood stream. This lowers the pressure inside the eye so that the damage from glaucoma can be stopped.

Underwater Refractive Correction

If contact lenses are to be used for diving, soft contact lenses are preferred. Hard (polymethylmethacrylate) contact lenses have been associated with nitrogen bubbles in the precorneal tear film during decompression and after dives, resulting in swelling of the cornea.

Although the increased gaseous diffusion properties of rigid gas-permeable contact lenses theoretically decrease the chance of bubble formation in the tear film, use of these lenses while diving has been demonstrated to cause bubble formation under the lens, leading to secondary corneal epithelial disruption. Symptoms resolve upon removal of the lens at the surface.

Corneal edema was not observed in one series in which soft contact lenses were studied. The most frequent complication of soft contact lens use in diving is loss of the lens. Lens loss can be minimized by ensuring a good seal on the face mask and minimizing the amount of water that gets into the air space of the mask. Should the mask become displaced during the dive, narrowing of the palpebral fissures helps decrease the chance of the contact lens floating off the surface of the eye.

A prescription ground face mask is another refractive alternative, as is a face mask with a lens bonded onto the surface of the mask. Masks and lenses may be lost in high swells or rough surf, however, leaving a diver without refractive correction.

Refractive corrections for presbyopia [far sightedness from age] presents special challenges underwater. Presbyopic contact lens-corrected myopes may require

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greater adds underwater than when viewing the same objects in air because of the increased percentage of shorter-wave length light rays underwater. Presbyopes should consider monovision correction to facilitate underwater visual tasks.

Refractive Surgery and Diving

Laser refractive surgery is a safe and effective means of correcting refractive errors in divers. Photorefractive keratectomy has been allowed in U.S. Navy divers since 1996. Laser-in-situ keratomileusis (LASIK) is presently a more commonly done procedure. Although this procedure presents the potential for both inflammation and trauma under the corneal flap as well as traumatic dislocation of the flap, these

conditions have not to date been reported as complications of diving. Visual acuity appears to be maintained in the hyperbaric environment. Acute hyperbaric stress does not appear to significantly alter refractive power after corneal surgery.

Diving After Eye Surgery

Individuals who have undergone ophthalmic surgical procedures should allow an appropriate period for wound healing before resuming diving.

Factors increasing the risk of post-operative complications:

- Marine organisms may cause infections when they contaminate non-epithelialized wound surfaces of the cornea, sclera, conjunctiva, or lid tissues
- These pathogens may enter the eye through unhealed corneal or scleral wounds and result in vision threatening endophthalmitis

The risk of infection due to contact of the eye with water is much greater when diving in potentially contaminated ocean, river, or lake water than when showering or bathing in chlorinated city water.

- Gas in the anterior chamber or vitreous cavity.
- This may be affected by changes in pressure and result in vision threatening intraocular barotrauma
- Negative pressure in the air space of a face mask caused by a mask squeeze.
- This may result in subconjunctival hemorrhage, lid bruising and swelling, and could theoretically cause the rupture of incompletely healed corneal or scleral wounds.
- In chamber dives, only gas in the eye remains a consideration.

There are no controlled studies specifically addressing the requisite length of convalescence before a return to diving. The recommendations below are based on the application of wound healing observations in other studies and on clinical experience.

Diving after refractive surgery

There are often inquiries about radial keratotomy [RK], a surgical procedure with long-term implications for diving. RK is currently a widely performed keratorefractive

procedure. Individuals whose myopia has been corrected with this procedure are prohibited from entering diving programs in the Navy.

Applicants who have had this procedure may not even be allowed to serve in less visually demanding Navy positions. Two recent reviews of RK in the military have recommended that the procedure continue to be disqualifying for Navy divers and for Army aviators. Edmonds, Lowery and Pennefather recommend that no one who has had RK be allowed to dive unless they have face masks designed to equalize the pressure within the mask to that of the ambient pressure. Davis and Bove state that until further data is available, a person who has had RK should be permanently disqualified from diving.

Complications of RK that impact the diver.

- halos
- glare
- diurnal fluctuations in visual acuity
- progressive hyperopia
- irregular astigmatism
- decrease in best corrected visual acuity
- recurrent corneal erosions
- increased susceptibility to traumatic corneal rupture
- possible barotrauma induced rupture of RK incisions in the hyperbaric environment (No reports)

Dr. Frank Butler has seen only one clinically significant case of face mask squeeze in many years of association with Navy and sport diving activities. Most of the reports of corneal rupture following RK have been the result of direct blunt trauma to the eye. Also worthy of note are the reports of blunt trauma severe enough to cause hyphema and facial fractures in which **radial keratotomy scars remained intact.**

Sport divers who have had radial and astigmatic keratotomy that does not entail full thickness corneal incisions or prolonged topical steroid therapy, may be **allowed to dive after three months.**

Photorefractive keratectomy (PRK) is a new refractive surgical procedure. Unlike radial keratotomy, it entails no corneal incisions which may decrease the ability of the cornea to withstand blunt trauma. Published studies of the outcomes of PRK have shown this procedure to be relatively free of post-operative complications when compared to RK. Individuals who have had this procedure may be allowed to dive two weeks after their surgery, assuming that they have had a normal post-operative course with resolution of pain and photophobia.

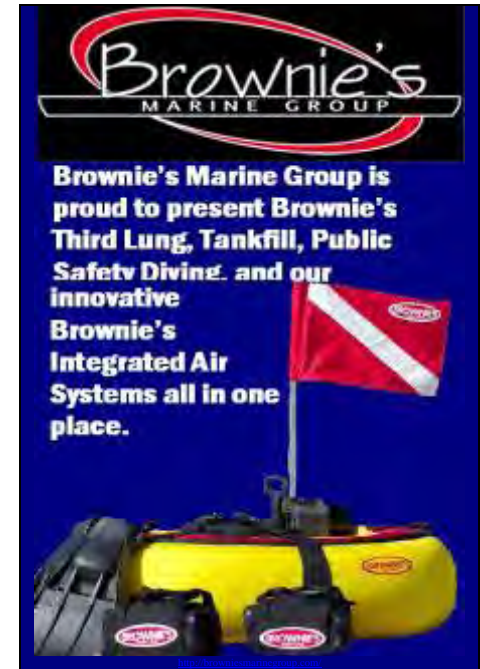
LASIK (laser in situ keratomileusis)

There are no case reports that document diving related complications after LASIK.

There are at least three potential complications that might occur in post-op LASIK patients as a result of diving:

1. - Globe rupture from face mask barotrauma (unlikely)
2. - Interface keratitis (infection of the flap interface)
3. - Flap displacement from interface bubbles
4. Complications that might impact the safety of divers include;
5. Halo / Glare / Night diving complaints
These decrease from 25+% early to about 4% in one year.
6. It is recommended waiting a minimum of one month before resuming diving after LASIK. [Butler]
7. This should always be discussed with the personal ophthalmologist, so that he or she will be able to add any special knowledge about your specific situation that would be relevant.

In corneal surgery **with full thickness incisions** very little healing is noted in the first week, followed by a rapid rise to about 30% of normal strength at 1 month. Wound strength then gradually increases to approximately 50% of normal by 3 to 6 months. Penetrating keratoplasty in which full thickness incisions are made in the cornea



should be followed by a **six month convalescent period**.

For **cataract surgery**, the post operative waiting period varies with the type of incision used. There should be a 3 months wait if a non-corneal valve incision is used: if a corneal valve incision is used, the clear corneal type requires a 2 month wait and the scleral tunnel needs only a one month waiting period.

Glaucoma filtering surgery (relative contra-indication) requires about a two month wait before diving.

Pterygium excision and conjunctival surgery require two weeks of convalescence and there should be a one week wait after corneal suture removal.

Argon laser trabeculoplasty or iridectomy and Yag laser capsulotomy necessitate no wait.

With **vitreo-retinal surgery**, such as vitrectomy, retinal detachment repair and pneumatic retinopexy, there must be a two month waiting period before diving with assurances that all air or gas has been absorbed. A two week wait would be sufficient for retinal cryopexy or laser photocoagulation for breaks.

For **oculoplastic surgery, skin grafts and strabismus surgery**, a two week wait is recommended, with the caveat that there must be complete epithelialization of skin grafts and that there is no air filled prosthesis.

EVENTS*



DUI RISK MANAGEMENT 2011 TRAINING PROGRAM



May 13 Gloucester, MA Stage Fort Park

May 20 Bethlehem, PA Dutch Springs

June 10 Black River Falls, WI Wazee Lake

Aug 19 Tacoma, WA Les Davis Park

Sept 16 Ottawa, OH Gilboa Quarry

Oct 21 Rawlings, VA Lake Rawlings

Nov 11 Chiefland, FL Manatee Springs

Nov 18 Terrell, TX Clear Springs Scuba Park

TEST DIVE THE WHITES FUSION DRYSUIT

To attend a Fusion Demo Day, you have to register and pay the applicable fee.

[Click HERE for REGISTRATION INFO](#)



May 14th-15th Bethlehem, PA Dutch Springs

May 21st-22nd Findlay, OH Gilboa Quarry

June 18th-19th Kankakee, IL Haigh Quarry

June 25th-26th Metropolis, IL Mermet Springs

Sept 10th Gloucester, MA Stage Fort Park
Sept 17th-18th Prince William County, VA Millbrook
Quarry

SWAT Counter Terrorism Operations

April 12-15, 2011 - Yakima Firing Range, WA

National Drowning Prevention Symposium

The National Drowning Prevention Alliance is a national non-profit dedicated to drowning prevention and water safety. Their annual Drowning Prevention Symposium will be held April 14 - 16 in Colorado Springs, CO.



For information on the Symposium, or membership, please access their website at <http://www.ndpa.org>



FREE ONE HOUR WEBINAR - APRIL 12th - 1PM EST - REGISTER NOW

HSN, together with [Mid-Michigan Kennels Inc.](http://www.midmichigan Kennels Inc) are hosting this event to assist those considering the purchase of, or the employment of Explosive Detection Canines with their organizations to better understand

what the capabilities are and what they should look for in selecting a training facility.

The seminar will cover:

- Assessing Your Needs
- Selecting the Training Facility or Vendor
- Selecting the Right Breed of Dog
- How and What Should the Dog be Trained to Detect
- In What Areas Should the Dog Be Trained to Work In

Register here:

<https://www1.gotomeeting.com/register/922447672>



1, 2011

<http://www.techno-forensics.com/>

6th Annual Homeland Security Professionals Conference & Expo

October 3-7, 2011 - Las Vegas, NV



Sheraton Myrtle Beach
Convention Center
Myrtle Beach, South
Carolina
October 31- November

If you have an event or know of an event that might be of interest to PSDiver Monthly subscribers send the information to:
PSDiverMonthly@aol.com

PSDiver Monthly Continuing Education

PSDM-CE-84

- 1) PSD divers require a higher level of _____ than recreational divers.
 - a. Strength
 - b. Stamina
 - c. Overall health
 - d. All of the above
- 2) The leading cause of diver fatality is _____.
 - a. Drowning
 - b. Entanglement
 - c. Vehicle accident
 - d. Heart failure
- 3) Prior to physical exercise the person should know his/her _____.
 - a. Breathing rate
 - b. Weight
 - c. Target heart rate
 - d. Blood Pressure
- 4) Which of the following devices are being considered as tool box items.
 - a. Sonar
 - b. ROV's
 - c. GPS
 - d. All of the above
- 5) PSD diver should undergo a yearly physical check.
 - a. True
 - b. False
- 6) Physical fitness is an absolute essential element of dive safety.
 - a. True
 - b. False
- 7) A _____ is a location of where a GPS unit has been.
 - a. Breadcrumb
 - b. Track log
 - c. Trail
 - d. Track Point
- 8) PSD diver candidates should show _____ scuba basic skills.
 - a. Minimum
 - b. Average
 - c. normal
 - d. exceptional
- 9) A measure of your target heart rate is determined by _____.
 - a. 2 times your age
 - b. 110 Plus your age
 - c. 220 minus your age
 - d. 3 minutes of hard exercise
- 10) Divers in poor physical condition should not dive...
 - a. True
 - b. False

- 11) Basic recreational divers who have just completed open water certification should _____ as a candidate for PSD.
- Be considered as a training officer
 - Receive additional recreational training
 - Immediately begin PSD diving
 - Think about being a dive instructor
 - None of the above
- 12) Recreational scuba skills are not necessary for a PSD as they will be taught only the skills necessary for PSD which differ from recreational and are not common..
- True
 - False
- 13) You can reduce your risk for cardiovascular disease by
- drinking alcohol regularly
 - maintaining a high body-mass index
 - using medical marijuana
 - none of the above
- 14) A physical fitness training program
- is not necessary for active divers
 - will increase the risk of decompression illness
 - increases flexibility, strength and endurance
 - interferes with a current recreational drinking program
- 15) A heart-healthy diet includes all except
- low-fat dairy products
 - lean meats
 - fruits, vegetables and whole grains
 - Shrimp alfredo on angel hair pasta with garlic bread paired with chardonnay
- 16) You should limit your consumption of
- Sodium
 - saturated fats or cholesterol
 - trans fats
 - all of the above
- 17) To increase the safety of your team, ensure that all members are fit to dive by
- taking body core temperature readings before each dive
 - scheduling a dive physical exam
 - making sure every team member gets enough to eat by catering baby back ribs, baked potato, coleslaw, dinner rolls paired with heart-healthy red zinfandel after each training session
 - all of the above
- 18) After retina repair surgery, a gas bubble is placed in the eye. This is
- ok to dive with only while wearing a full face mask
 - an absolute contraindication to diving
 - extremely painful
 - all of the above
- 19) Risks of diving after eye surgery include

- a) infection
- b) barotraumas
- c) subconjunctival hemorrhage
- d) all of the above

20) Lasik surgery

- a) is a contraindication for diving
- b) has had no documented case reports of diving related complications
- c) has possible complications that might occur as a result of diving
- d) both b and c

contain _____ cubic feet of air when the gauge pressure is 1100 PSI

23) A 3000 PSI Luxfer 40 CF pony cylinder will contain _____ cubic feet of air when the gauge pressure is 1800 PSI

24) A 3000 PSI Luxfer 13 CF pony cylinder will contain _____ cubic feet of air when the gauge pressure is 500 PSI

Calculating Cylinder Volume Based on Gauge Pressure

To calculate volume in a cylinder at pressure For Luxfer Cylinders multiply gauge pressure by the number below for the cylinder size.:

80 cf	.0259	Example: 80 cf Gauge pressure is 1800 psi. .0259X1800 = 46.63 cf of air
50 cf	.01613	
40 cf	.01333	
19 cf	.0066	
13 cf	.0044	

21) An 80 cubic foot Luxfer aluminum cylinder with a working pressure rating of 3000 PSI will contain _____ cubic feet of air when the gauge pressure is 1700 PSI

22) A 3000 PSI Luxfer 19 CF pony cylinder will

Team Discussion:

1. Discuss your teams guidelines and procedure for a physical fitness programs.
2. Discuss your teams guide for annual physical inspections.
3. Review your teams training and how to incorporate physical fitness into the program
4. Discuss your teams method to base line check a diver prior to entering the water.
5. If your team dives with a redundant air supply, determine what gauge pressure is necessary relative to minimum starting volume. The preference being no less than 90% of the cylinder rating.



These training agencies have recognized PSDiver Monthly as a valued addition to their programs and Continuing Education requirements.

Public Safety Diving

Association(PSDA) recognizes and approves the PSDiver CE program. Each month's Q&A program credits 1 CEU for renewal up to a maximum of 3 CEUs from this source for each year's renewal.



ERDI Recognizes and supports the PSDiver Monthly CE Program. Contact your ERDI Instructor for details.

Life Saving Resources

Lifesaving Resources advocates the need for Public Safety and Rescue personnel to be trained in Water and Ice Rescue and recognizes the PSDiver Monthly CE Program for continuing education training and credits.



Lifeguard Systems – TEAM LGS



We welcome all training agencies and organizations to participate. For details, email PSDiverMonthly@aol.com

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PSDiver Monthly is not bound by borders and while our largest subscriber base is in North America, we have a world wide subscriber base.

CE 84 Answers

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