

# **DIVING INTO THE HEART OF TROUBLE: Cardiac Health of UK Sports Divers**

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# DIVING INTO THE HEART OF TROUBLE: Cardiac Health of UK Sports Divers

## Background

- In United Kingdom (UK) self-declaration and medical statement sport diving forms may not always be a reliable indicator of health
- UK sport divers are required by their club/school to self-declare the state of their health and return the completed form to their dive club/school
- UK National Health Service (NHS) is free at the point of care for diving related illnesses
- May contribute in part to the lack of rigorous health surveillance and/or accurate self-declaration by UK divers

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## Reasons for a Survey

- UK incident data collated by British Sub Aqua Club
- Since 2009 increased fatalities in over 50 age group
- Two unconnected studies (2007 & 2010) showed 9% and 10% respondents were on cardiac meds
  - Primary or secondary disease prevention
  - And/or symptomatic cardiac disease
- Increased debate in the diving medical arena
- Cardiac health and fitness to dive?

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## Data collected

- Anonymous online survey
- Diver & diving demographics
- Diving medical Y/N and year of last medical
- Physician diagnosed high blood pressure
- Current cardiac medications
- Blood pressure, cholesterol and blood glucose checked
- Cardiac events and procedures
- Patent foramen ovale (PFO) prevalence and closure
- DCI and PFO

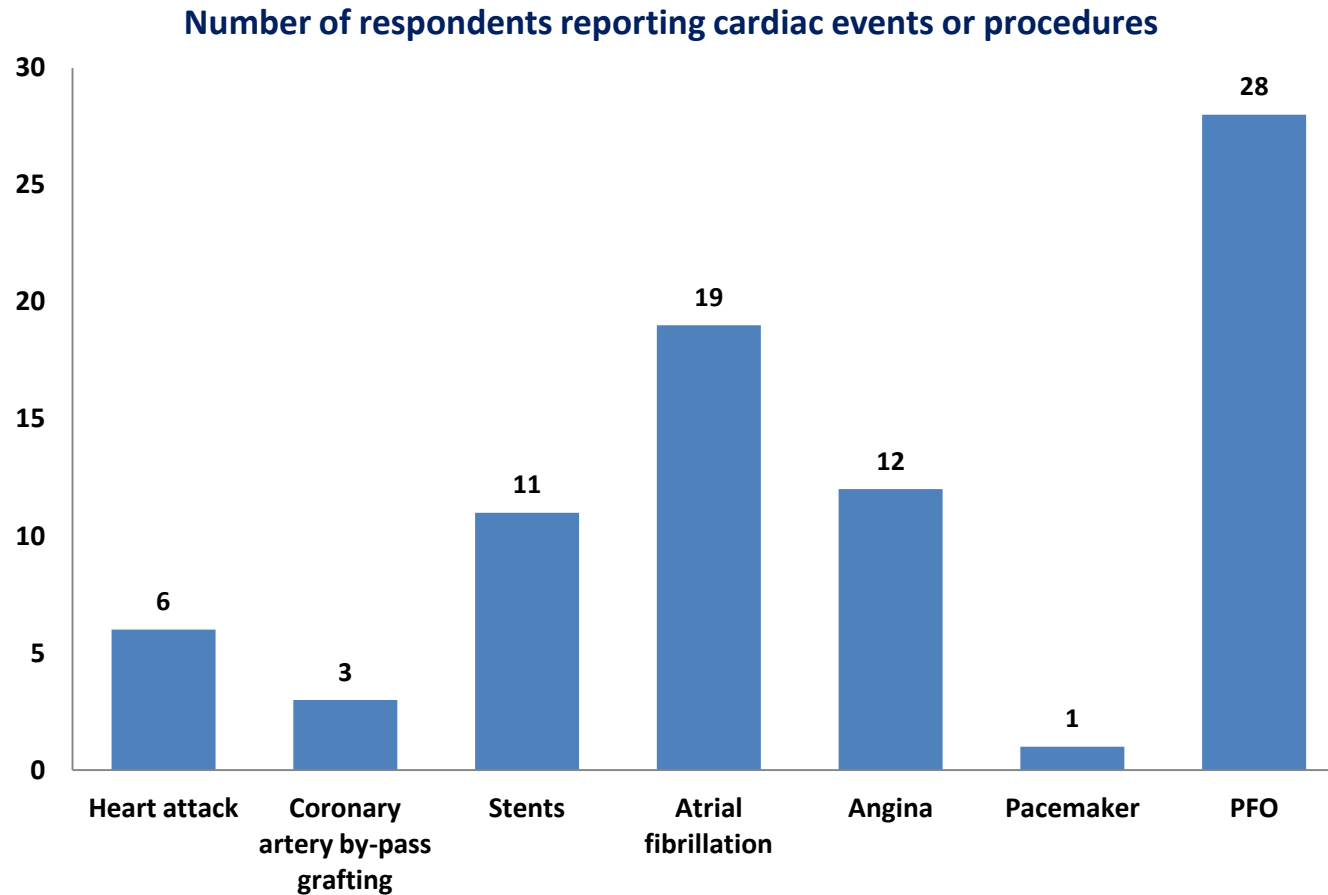


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## Results n=672

- 9% taking cardiac medication
  - Ace inhibitors/Angiotensin-II receptor antagonists
  - Lipid lowering agents
  - Antiplatelet drugs
  - Calcium-channel blockers
  - Diuretics
  - Beta-adrenoceptor blockers
  - Alpha-adrenoceptor blockers
  - Anti-anginal drugs
- 35% (n=21) of this group no diving medical at all, or for more than 10 years

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## DIVING INTO THE HEART OF TROUBLE: Cardiac Health of UK Sports Divers

### Facts, figures and food for thought

- Case H1. reported 3 heart attacks, a tech diver, 120 dives in last 12 months
- Case H6. quad bypass, 20 dives in last 12 months, tech diver, “suffers from cold induced angina”
- Case H7. quintuple bypass, tech diver, >100 dives in last 12 months
- Case H8. reported 8 stents, 20 dives in last 12 months, “dives to extreme depths 60 to 80 meters”



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### Facts, figures and food for thought

- 22% in total reported a 1<sup>st</sup> degree relative age under 60 with history of cardiac problems
- 5 of the 12 divers with angina were technical divers
- 2 of the 3 active divers with type 1 diabetes did not have diving medicals, one also had high BP
- 3 of the 20 divers with asthma took meds for high BP
- In total 35% respondents took some kind of physician prescribed meds (for other conditions and/or cardiac)

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### Facts, figures and food for thought

- “Other health problems” recorded included:
  - Asthma, diabetes, cancers, arthritis, bipolar disorder, depression and mental health issues, thyroid disorders, spinal conditions, sports injuries and broken bones, and gastrointestinal
- 66% were overweight or obese
- Aged >50 were more likely to be overweight

## Conclusions and Debate

- Health problems develop throughout a divers career
- Not all divers with health problems have a recent diving medical
- These data support two previous studies, suggesting divers with cardiac problems or potential problems continue to dive
- “Getting low on hair and teeth” - Older divers may be more likely to develop problems
- **Is self-declaration “fit for purpose” for “fit to dive”?**

**THANK YOU**

## DIVING INTO THE HEART OF TROUBLE: Cardiac Health of UK Sports Divers

### Patent Foramen Ovale n=28

- 22/28 discovered PFO after a DCI
- 20/28 opted for closure
- “To enable me to carry on diving and not to be restricted on depth”
- 16/20 successfully returned to diving – 8 tech divers
- 6 divers did *not* have a closure, but continued diving with more conservative profiles