

	<p>REGULATION 28 REPORT TO PREVENT FUTURE DEATHS</p> <p>THIS REPORT IS BEING SENT TO:</p> <ol style="list-style-type: none"> 1. ██████████, Chair of the General Medical Council. 2. ██████████, Chair of National Trading Standards 3. ██████████, Chief Executive of the Royal Society for the Prevention of Accidents 4. ██████████, Chief Executive Officer, Decathlon UK
1	<p>CORONER</p> <p>I am Caroline Topping assistant coroner, for the coroner area of Surrey.</p>
2	<p>CORONER'S LEGAL POWERS</p> <p>I make this report under paragraph 7, Schedule 5, of the Coroners and Justice Act 2009 and Regulations 28 and 29 of the Coroners (Investigations) Regulations 2013.</p>
3	<p>INVESTIGATION and INQUEST</p> <p>Following an investigation opened on the 2nd March 2020 and an inquest opened on the 5th March 2020 the inquest was concluded on the 20th December 2022.</p> <p>The cause of death was:</p> <ol style="list-style-type: none"> 1a.) Immersion Pulmonary Oedema II.) Hypertension and Menopause treated by Hormone Replacement Therapy <p>The narrative conclusion was:</p> <p>Angela Jean Kearn was suffering from hypertension and taking hormone replacement therapy. On the 13th January 2020 she was snorkelling using a full face mask. She developed immersion pulmonary oedema and died at the Nile Hospital, Hurghada Egypt. Hypertension, hormone replacement therapy and the use of the full face mask each more than minimally contributed to the death</p>
4	<p>CIRCUMSTANCES OF THE DEATH</p> <ol style="list-style-type: none"> i.) Angela Kearn was aged 63 when she died. She had recently been diagnosed with hypertension which was being treated with atenolol. She was also taking hormone replacement therapy. ii.) For the previous 5 years she had been using a Decathlon Easybreath full face snorkel mask when on holiday. iii.) On the 13th January 2020 she was snorkelling using the full face mask when she expressed concerns and was accompanied back to the beach. She collapsed and died. iv.) Expert evidence at the inquest identified immersion pulmonary oedema as the cause of the death. This is caused by the build-up of fluid in the lungs as a result of an increase in pulmonary capillary pressure caused by water pressure when the chest is submerged. This is exacerbated by hypertension and hormone replacement therapy. Negative pressure in the lungs causes fluid from the blood vessels to be drawn into the lungs. v.) The use of a full face snorkel mask contributed to the death in two ways: <ol style="list-style-type: none"> a.) because negative pressure in the lungs is increased as a result of the increased effort of breathing caused by inhalation through the snorkel tube and mask, and b.) because respiratory effort is increased by the inhalation of elevated carbon dioxide levels caused by inhaling air drawn through a dead space in the mask.

	<p>Both exacerbate the negative pressure in the lungs and increase the effects of immersion pulmonary oedema.</p>
5	<p><u>CORONER'S CONCERNS</u></p> <p>During the course of the inquest the evidence revealed matters giving rise to concern. In my opinion there is a risk that future deaths could occur unless action is taken. In the circumstances it is my statutory duty to report to you.</p> <p>The MATTERS OF CONCERN are as follows:</p> <p>Awareness of Immersion Pulmonary Oedema in the medical profession:</p> <p>i.) Concerns were raised by the medical witnesses that there is very little awareness of Immersion Pulmonary Oedema in the medical profession and that it is not addressed in medical training, as a consequence, it can be missed by those treating the condition and is often mistaken for drowning.</p> <p>The Full Face Mask</p> <p>ii.) At the time that the Easybreath full face snorkel mask was developed by Decathlon there were no United Kingdom or European Standards which were applicable to a full face snorkelling mask.</p> <p>iii.) In the course of its development, Decathlon commissioned a number of tests to be undertaken on it, but it was accepted in evidence that the tests undertaken did not replicate the conditions of the use of the mask by the general public.</p> <p>iv.) Decathlon have sold over 16 million of the masks. Other such masks are also on the market.</p> <p>v.) The Decathlon usage instructions for the full face mask, contained in small print, have been amended over time. From the 17th August 2015 the instructions included a warning that you must make sure that you are in good physical condition before snorkelling and that the mask is not suitable for swimming.</p> <p>vi.) Further tests were undertaken and an Ergomedical report considered the issue of whether use of the mask and inhalation through the mask's dead space gave rise to excess carbon dioxide inhalation. The report concluded "we strongly recommend to advise against wearing Easybreath masks to people who suffer from underlying cardio-respiratory conditions."</p> <p>vii.) As a result, Decathlon amended their instructions for use to include that the mask should not be used if the user has unstable cardio-respiratory pathologies, that the mask is to be used under conditions of submaximal exercise (mild to moderate) and that it is not suitable for active swimming.</p> <p>viii.) Development of a United Kingdom standard in relation to this type of mask is now being put in train but has not yet begun and is likely to take some time.</p> <p>ix.) Decathlon have recently updated their website in the United Kingdom to include the following, "It is not recommended to use this product if you have any ongoing respiratory or cardiovascular issues including but not limited to chest infection, asthma, high/raised blood pressure (hypertension), heart disease or angina etc. If you have any doubts or questions relating to this please check with your medical practitioner." The same additional wording is being translated and added to all websites of the company.</p> <p>x.) The packaging of the mask has been revised to show a pictogram to warn against use of the mask by those with heart or other cardiovascular conditions.</p> <p>xi.) The concern is that many million of the full face masks have been sold and the safety concerns about their use by those with ongoing cardiovascular and respiratory issues has not been widely publicised or brought to the attention of those who already own the masks. Those purchased before 2017 had no warning in relation to these matters and the warning included in the instructions from 2017 onwards was not prominent nor sufficient to alert prospective purchasers to the hazards of use which have now been identified.</p> <p><i>i</i></p>

6	<p>ACTION SHOULD BE TAKEN</p> <p>In my opinion action should be taken to prevent future deaths and I believe you [AND/OR your organisation] have the power to take such action.</p>
7	<p>YOUR RESPONSE</p> <p>You are under a duty to respond to this report within 56 days of the date of this report, namely by 9th May 2023. I, the coroner, may extend the period.</p> <p>Your response must contain details of action taken or proposed to be taken, setting out the timetable for action. Otherwise, you must explain why no action is proposed.</p>
8	<p>COPIES and PUBLICATION</p> <p>I have sent a copy of my report to the Chief Coroner and to the following Interested Persons:</p> <p>██████████ ██████████ Decathlon UK</p> <p>I am also under a duty to send a copy of your response to the Chief Coroner and all interested persons who in my opinion should receive it.</p> <p>I may also send a copy of your response to any other person who I believe may find it useful or of interest.</p> <p>The Chief Coroner may publish either or both in a complete or redacted or summary form. He may send a copy of this report to any person who he believes may find it useful or of interest.</p> <p>You may make representations to me, the coroner, at the time of your response, about the release or the publication of your response.</p>
9	<p>Caroline Topping, 29th March 2023</p>