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Author(s): Perkins, Gavin

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I would like to thank Professor Tipton, Mr Ramm and their colleagues for their feedback. I was commissioned to write the editorial by the journal after significant concerns were raised about the decision-making guide during the peer review process. The editorial sought to provide an alternative view to that presented in the original paper.¹

I remain concerned about the reliance on water temperature to dichotomise rescue and resuscitation attempts into two substantially different durations (90 versus 30 minutes). Whilst not seeking to repeat the limitations of this approach outlined in the original paper¹ and my editorial² the following key issues remain. Most case reports provide estimates rather than actual measurements of water temperature and submersion duration, thus limiting the precision of attempts to define a relationship between the two variables. One such example is the survival of a 7 month old after submersion for an estimated 60 minutes in a cold bath.³ How cold cold is, is not defined and could plausibly include a water temperature above 6°C. Whilst the relationship between water temperature and duration of submersion is undoubtedly more complex than a linear relationship, linear regression analysis of the data in figure one of the paper provides 95% confidence intervals at a water temperature of 6°C that exceed 30 minutes submersion time. I agree there is a paucity of data showing survival after prolonged submersion in warmer water. Whilst it is possible this reflects absence of survivors, publication bias favouring exceptional reports is a plausible alternative explanation. With existing reports of survival after 66 minutes submersion in water of approximately 5°C,⁴ the likelihood of case reports of shorter durations of survival in warmer water being accepted for publication is small.

Society recognises and respects the emergency services for the terrific job they do in striving to save life which can at times involve significant personal risk. On the other hand emergency services are not immune from criticism if an over cautious response is adopted.⁵ Ramm and Robson explain how the proposed tool may assist incident commanders for defining when continuation of search and rescue efforts become futile. Aside from the points made above, one must acknowledge cultural and religious differences in thresholds for defining futility.⁶ Drowning is also common in the young, where societal expectations are often that everything possible is done to try and save life. I suggest the threshold for defining futility may extend beyond 30 minutes.

I agree there is a need for further work in this area. I encourage organisations like the RNLI and Fire Officers Association to collate and publish the outcomes of their decades of search and rescue operations. The Joint Royal College Ambulance Liaison Committee has undertaken a detailed literature review, including analysis of primary cases. I understand it will be submitted shortly for peer review. Once published these results will be available to the wider scientific community to debate.

References

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