

## Appendix One: Supplementary Material

Top of Form

/w EPDw UKMTEx

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### Survey of the use of therapeutic hypothermia after cardiac arrest in UK paediatric emergency departments.

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#### Demographics

1) Which of the following best describes your current role?

- a) Consultant in Emergency Medicine
- b) Consultant in Paediatric Emergency Medicine
- c) Consultant in Emergency Medicine with dual accreditation in Paediatrics

2) Which of the following best describes your Emergency Department?

- a) Paediatric Emergency Department within a Tertiary Children's Hospital
- b) Emergency Department with Audio-Visual separation of children and adults
- c) Emergency Department with no Audio-Visual separation of children and adults

Other (please specify)

3) On average how many children are seen in your Emergency Department per year?

4) Are children who have suffered a cardiac arrest managed in your Emergency Department?

- a) Yes
- b) No

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#### Current practice in Therapeutic Hypothermia

5) Are you aware of the published research regarding the use of therapeutic hypothermia in adults (18 yrs) who have a return of spontaneous circulation (ROSC) following out-of-hospital cardiac arrest?

- a) Yes
- b) No

6) Do you use therapeutic hypothermia as a therapy for adults (>18 yrs) who have a return of spontaneous circulation (ROSC) following out-of-hospital cardiac arrest?

- a) Never
- b) Seldom
- c) Often
- d) Always

e) N/A

7) Does your Emergency Department have a specific protocol for implementing hypothermia therapy in adults >18 yrs?

- a) Yes
- b) No
- c) Don't know

8) Does your Emergency Department have a specific protocol for implementing hypothermia therapy in children <16 yrs?

- a) Yes
- b) No
- c) Don't know

9) Do you currently have access to any of the equipment listed below in your Emergency Department which could be used to induce therapeutic hypothermia in a child? (you can select more than one)

- a) Cold air circulating blanket
- b) Ice Cold (4°Celsius) intravenous fluid
- c) Ice packs to be applied to skin
- d) Wet linen
- e) Cold water circulating Blanket
- f) Intravascular cooling device

Other (please specify)

10) Do you believe that the use of therapeutic hypothermia after cardiac arrest in children (<16 yrs) improves clinical outcome?

- a) Yes
- b) No
- c) Don't know

11) In the management of children (<16yrs) who have had or shown a return of spontaneous circulation (ROSC) following resuscitation from cardiac arrest, how often do you use therapeutic hypothermia in your Emergency Department?

- a) Never
- b) Seldom
- c) Often
- d) Always

*If you answered 'Often' or 'Always' proceed directly to question 13.*

12) Which of the following describes your reason(s) for not using therapeutic hypothermia after resuscitation from paediatric cardiac arrest? (you can select more than one)

- a) I do not look after patients post cardiac arrest
- b) There is not enough research evidence to support its use
- c) Therapeutic hypothermia is not in the APLS guidelines
- d) Therapeutic hypothermia is technically too difficult to initiate
- e) I have concerns that patients are unable to give informed consent
- f) The cooling method to which I have access is too slow
- g) I have never considered hypothermia as a therapy in post arrest children
- h) Hypothermia is not advocated by my local Paediatric Intensive Care Unit
- i) I do not have any equipment available to initiate cooling

Other (please specify)

13) Which method(s) of cooling do you commonly use to induce hypothermia (all age groups)? (you can select more than one)

- a) Cold air circulating blanket
- b) Ice Cold (4°Celsius) intravenous fluid
- c) Ice packs applied to skin
- d) Wet linen
- e) Cold water circulating Blanket
- f) Intravascular cooling device

Other (please specify)

14) What temperature (degrees celcius) do you aim to cool to?

- a) 36-36.9
- b) 35-35.9
- c) 34-34.9
- d) 33-33.9
- e) 32-32.9
- f) 31-31.9
- g) 30-30.9
- h) Don't know

15) On what basis do you select patients to induce therapeutic hypothermia? (you can select more than one)

- a) Likelihood of patient recovery after the arrest
- b) Absence of life limiting condition

- c) Absence of need for vasoactive drug support
- d) Presence of coma for >1hr post successful resuscitation
- e) Availability of equipment
- f) On advice from PICU
- g) Don't know

Other (please specify)

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### Research Opinion/Support

*Regarding the following statements, please select whether you: Strongly agree, Agree, No opinion or Neutral, Disagree, Strongly disagree*

16) There is clinical equipoise regarding the use of therapeutic hypothermia versus normothermia after cardiac arrest in children?

*(Clinical Equipoise: defined as "the existence of an honest, professional disagreement among expert clinicians about the preferred treatment") Freedman B: Equipoise and the ethics of clinical research. N Engl J Med 1987 Jul 16;317(3): 414-5*

- a) Strongly agree
- b) Agree
- c) No opinion or Neutral
- d) Disagree
- e) Strongly disagree

17) It is ethical to perform a randomized controlled trial of hypothermia in children after cardiac arrest

- a) Strongly agree
- b) Agree
- c) No opinion or Neutral
- d) Disagree
- e) Strongly disagree

18) It is ethical to use deferred consent in clinical trials investigating therapies commenced immediately after cardiac arrest

*(Deferred consent: defined as "Obtaining informed consent (from parent or guardian) as soon as is reasonably practicable after the initial emergency. This would be a requirement of continued participation in the trial; but its absence would not preclude initial entry into a trial. The use of deferred consent would only be used after specific approval by an ethics committee")*

- a) Strongly agree
- b) Agree
- c) No opinion or Neutral
- d) Disagree

e) Strongly disagree

19) Would you support a randomized controlled trial in the UK investigating the use of hypothermia after cardiac arrest in children

comparing:

a. Hypothermia versus Normothermia

a) Yes

b) No

c) Don't know

b. Variation in the method of inducing and maintaining hypothermia

a) Yes

b) No

c) Don't know

20) Would you, in principle, allow your patients in the Emergency Department to be included into a multi-centre randomized UK study

of hypothermia after cardiac arrest in children?

a) Yes

b) No

c) Don't know

If you answered 'No' could you briefly explain your answer?

21) Would you be willing to commence therapeutic hypothermia in your Emergency Department as part of a research protocol?

a) Yes

b) No

c) Don't know

If you answered 'No' or 'Don't know' could you briefly explain your answer?

Please write any further comments you have regarding the use of hypothermia after cardiac arrest in children and the prospect of future UK research and your involvement in this area:

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