Brazil neuroprognostication soup (POR)

Start of Block: Introduction

Termo de Consentimento Livre Esclarecido O propósito deste questionário é investigar a abordagem dos médicos brasileiros ao determinar o prognóstico neurológico de pacientes pós-parada cardíaca. A participação neste estudo envolve responder este questionário que é voluntário, anônimo e leva cerca de 10 minutos para ser completado. Os resultados serão analisados para auxiliar na elaboração de um estudo multicêntrico observacional que tem como objetivo melhorar a acurácia do prognóstico neurológico pós-parada cardíaca e será publicado posteriormente.

A sua participação neste estudo não sera compensada financeiramente ou com co-autoria em eventual publicação futura. Não há riscos previstos associados a sua participação. Apesar de sua participação não trazer nenhum benefício pessoal direto, esperamos que nossos resultados possam contribuir para esclarecer as diferentes práticas de determinação de prognóstico neurológico em pacientes pós-parada cardíaca. Suas respostas serão mantidas em sigilo e somente pesquisadores diretamente envolvidos neste estudo terão acesso as suas respostas que serão colhidas por este questionário eletrônico.

Ressaltamos que sua participação é completamente voluntária. Fique livre para se recusar em participar or cessar sua participação a qualquer momento e por quaisquer motivos, ou se recusar em responder a quaisquer perguntas sem temer qualquer penalidade. Sua decisão de participar ou não neste estudo não afetará sua relação com a Yale University. Se você tem qualquer pergunta sobre este etudo, você pode contactar Dr. Emily Gilmore pelo telephone +1 (203) 737-8051 ou e-mail emily.gilmore@yale.edu. Se você preferir contactar outra pessoa que não faça parte do time de pesquisa para expressar qualquer concernimento, para obter esclarecimentos caso os membros do time de pesquisa não estejam disponíveis, ou para se informar sobre seus direitos como participante de pesquisa, favor contactar Yale University Human Subjects Committee 203-785-4688, human.subjects@yale.edu. Mais informações no site http://www.yale.edu/hrpp/participants/index.html.

Agradecemos o seu tempo e suas respostas. Se deseja prosseguir e caso concorde em participar neste estudo, por favor, clique no ícone da seta para começar.

End of Block: Introduction

Start of Block: Demographics

Você é médico?

- ○ Sim
- ○ Não

Quantos pacientes com parada cardíaca e retorno de circulação espontânea você atende no seu hospital primário a cada ano aproximadamente?

- 0
- 1 - 25
- 26 - 50
- 51 - 75
- > 75

Quais dos seguintes itens descrevem a especialidade da sua área de atuação? Assinale todas as alternativas que se aplicam.

- [ ] Anestesia – Terapia Intensiva
- [ ] Cardiointensiva – Terapia Intensiva
- [ ] Cardiologia
- [ ] Cirurgia cardiotorácica
- [ ] Cirurgia cardiotorácica – Terapia Intensiva
- [ ] Clínica Médica
- [ ] Clínica Médica - Terapia Intensiva
- [ ] Emergência Médica
- [ ] Neurointensivismo – Terapia Intensiva
- [ ] Neurologia
- [ ] Neurocirurgia
- [ ] Pediatria – Terapia Intensiva
- [ ] Pneumologia
- [ ] Cirurgia Geral - Terapia Intensiva
- [ ] Cirurgia do Trauma
- [ ] Outra _____

Você completou algum treinamento dedicado à terapia intensiva (pós -graduação ou residência)?

- ○ Sim
- ○ Não

Quais dos seguintes itens descrevem o local de sua prática médica? Assinale todas as alternativas que se aplicam.

- ☐ Hospital Privado
- ☐ Hospital Público
- ☐ Hospital Universitário

Qual o nome do hospital no qual você trabalha primariamente?

_____

Em qual estado brasileiro você pratica medicina?

- ○ Acre
- ○ Alagoas
- ○ Amapa
- ○ Amazonas
- ○ Bahia
- ○ Ceara
- ○ Distrito Federal
- ○ Espirito Santo
- ○ Goias
- ○ Maranhao
- ○ Mato Grosso
- ○ Mato Grosso do Sul
- ○ Minas Gerais
- ○ Para
- ○ Paraiba
- ○ Parana
- ○ Pernambuco
- ○ Piaui
- ○ Rio de Janeiro
- ○ Rio Grande do Norte
- ○ Rio Grande do Sul
- ○ Rondonia
- ○ Roraima
- ○ Santa Catarina
- ○ Sao Paulo
- ○ Sergipe
- ○ Tocantins

Em qual ano você completou a faculdade de medicina?

▼ 2019 ... 1940

No seu hospital, manejo por temperatura alvo (targeted temperature management - TTM) e/ou hipotermia terapêutica (therapeutic hypothermia - TH) são oferecidos como tratamento para pacientes pós-parada cardíaca?

- ○ Sim
- ○ Não

Qual a temperatura alvo nos pacientes pós-parada cardíaca quando se utilizam TTM/TH no seu hospital primário?

- ○ 32-34 graus Celsius
- ○ 32-36 graus Celsius
- ○ 36 graus Celsius

Qual método de indução de hipotermia[M1] [M2] você utiliza rotineiramente para TTM/TH? Assinale todas as alternativas que se aplicam.

- [ ] Aquecimento e resfriamento por alça de feedback controlado: cateter endovascular
- [ ] Aquecimento e resfriamento por alça de feedback controlado: cateter esofagiano
- [ ] Aquecimento e resfriamento por alça de feedback controlado: resfriamento de superfície por pás adesivas
- [ ] Aquecimento e resfriamento por alça de feedback controlado: cateter nasofaríngeo
- [ ] Aquecimento e resfriamento por alça de feedback não controlado: cateter nasofaríngeo
- [ ] Aquecimento e resfriamento por alça de feedback não controlado: cobertores de resfriamento (cooling blankets)
- [ ] Gelo
- [ ] Soro fisiológico gelado endovenoso
- [ ] Ventilador

Por quanto tempo os pacientes pós-parada cardíaca são mantidos na temperatura alvo no seu hospital primário?

- ○ < 24 horas
- ○ 24 horas
- ○ 24 - 48 horas
- ○ > 48 horas

End of Block: Demographics

Start of Block: Neuroprognostication

Assumindo que o exame neurológico está sempre disponível, quais outros métodos estão a sua disposição para avaliar o estado neurológico de paciente pós-parada cardíaca? Assinale todas as alternativas que se aplicam.

- [ ] Marcador químico – enolase neuronal específica (ENE)
- [ ] Eletrofisiologia - eletroencefalograma (EEG)
- [ ] Eletrofisiologia - potencial evocado somatosensitivo (SSEP)
- [ ] Neuroimagem – tomografia computadorizada craniana (TC Crânio)
- [ ] Neuroimagem – ressonancia magnética craniana (RM Crânio)

Com qual frequência você utiliza os seguintes métodos de prognóstico neurológico para estimar a gravidade da lesão hipóxico-isquêmica nos pacientes não-responsivos pós-parada cardiaca?

	Nunca	Raramente	Às vezes	Frequentemente	Quase sempre
Marcador químico- ENE	○	○	○	○	○
Eletrofisiologia - EEG	○	○	○	○	○
Eletrofisiologia - SSEP	○	○	○	○	○
Neuroimagem – TC Crânio	○	○	○	○	○
Neuroimagem - RM Crânio	○	○	○	○	○

Se **TODOS** os seguintes métodos estivessem à sua disposição, quão importante você consideraria cada item ao avaliar o prognóstico neurológico de pacientes pós-parada cardíaca?

	Inútil	Um pouco importante	Muito importante	Fundamental
Marcador químico- ENE	○	○	○	○
Eletrofisiologia - EEG	○	○	○	○
Eletrofisiologia - SSEP	○	○	○	○
Neuroimagem – TC Crânio	○	○	○	○
Neuroimagem – RM Crânio	○	○	○	○
Reflexo pupilar à luz	○	○	○	○
Reflexo corneo-palpebral	○	○	○	○
Escala de Coma de Glasgow – score motor	○	○	○	○
Observação de mioclônus pós-parada	○	○	○	○

Assumindo que o exame completo de coma é realizado rotineiramente, quais dos seguintes achados você considera relevante ao avaliar o prognóstico neurológico dos pacientes pós-parada cardíaca? Assinale todas as alternativas que se aplicam.

- [ ] Abertura ocular espontânea
- [ ] Reflexo corneo-palpebral
- [ ] Reflexo de tosse
- [ ] Reflexo de vômito (gag reflex)
- [ ] Resposta motora
- [ ] Reflexo óculo cefálico ("reflexo dos olhos de boneca")
- [ ] Reflexo pupilar à luz
- [ ] Reflexo vestíbulo-ocular (teste do soro gelado)

Como você avalia o reflexo pupilar à luz? Escolha apenas uma opção.

(Se você utiliza múltiplos métodos, escolha o que você considera definitivo).

- ○ Luz com lupa magnificadora
- ○ Luz a olho nu
- ○ Pupilômetro

Como você avalia o reflexo corneo-palpebral? Escolha apenas uma opção.

(Se você utiliza múltiplos métodos, escolha o que você considera definitivo).

- ○ Leve contato com algodão
- ○ Jato de soro fisiológico/água
- ○ Pressão com aplicador com ponta de algodão
- ○ Pressão com jato de ar

Clique na área do olho no qual você aplica o estímulo quando examina o reflexo corneo-palpebral.

Q45 Qual estímulo nociceptivo você aplica quando avalia a resposta motora? Assinale todas as alternativas que se aplicam.

- [ ] Aperto sobre músculo trapézio
- [ ] Estímulo nociceptivo proximal sobre extremidades
- [ ] Pressão esternal
- [ ] Pressão mamilar
- [ ] Pressão sobre articulação temporo-mandibular
- [ ] Pressão sobre leito ungueal
- [ ] Pressão supra-orbital
- [ ] Outro _____

Em pacientes pós-parada cardíaca que **NÃO FORAM TRATADOS** com TTM e/ou TH, qual o momento mais precoce que você acha que os seguintes achados são **FORTEMENTE** indicativos de prognostico neurológico **DESFAVORÁVEL**?

Ausência de reflexo corneo-palpebral	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Ausência de reflexo de tosse	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Ausência de resposta motora ou resposta extensora	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Ausência de reflexo de vômito (gag)	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Ausência de reflexo óculo cefálico	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Ausência de reflexo pupilar à luz	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Ausência de reflexo vestíbulo-ocular	▼ Imediatamente após a parada cardíaca ... Não tenho certeza

▼ *Dropdown choices:*
Imediatamente após a parada cardíaca
24 horas pós-parada cardíaca
48 horas pós-parada cardíaca
72 horas pós-parada cardíaca
96 horas ou mais pós-parada cardíaca
Tempo pós-parada cardíaca não é relevante
Não tenho certeza

Q47 Em pacientes pós-parada cardíaca **TRATADOS** com TTM e/ou TH, qual o momento mais precoce que você acha que os seguintes achados são **FORTEMENTE** indicativos de prognostico neurológico **DESFAVORÁVEL**?

Ausência de reflexo corneo-palpebral	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Ausência de reflexo de tosse	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Ausência de resposta motora ou resposta extensora	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Ausência de reflexo de vômito (gag)	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Ausência de reflexo óculo cefálico	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Ausência de reflexo pupilar à luz	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Ausência de reflexo vestíbulo-ocular	▼ Imediatamente após a parada cardíaca ... Não tenho certeza

▼ *Dropdown choices:*
Imediatamente após a parada cardíaca
24 horas pós-parada cardíaca
48 horas pós-parada cardíaca
72 horas pós-parada cardíaca
96 horas ou mais pós-parada cardíaca
24 horas após completamente reaquecido à normotermia
48 horas após completamente reaquecido à normotermia
72 24 horas após completamente reaquecido à normotermia
96 horas ou mais após completamente reaquecido à normotermia
Tempo pós-parada cardíaca não é relevante

Não tenho certeza

Page Break

Em pacientes pós-parada cardíaca que **NÃO FORAM TRATADOS** com TTM e/ou TH, qual o momento mais precoce que você acha que os seguintes achados são **FORTEMENTE** indicativos de prognostico neurológico **DESFAVORÁVEL**?

Ausência bilateral de picos N20 no SSEP	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Níveis elevados de ENE	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Prognóstico ruim baseado no EEG	▼ Imediatamente após a parada cardíaca ... Não tenho certeza

▼ *Dropdown choices:*
Imediatamente após a parada cardíaca
24 horas pós-parada cardíaca
48 horas pós-parada cardíaca
72 horas pós-parada cardíaca
96 horas ou mais pós-parada cardíaca
Tempo pós-parada cardíaca não é relevante
Não tenho certeza

Em pacientes pós-parada cardíaca **TRATADOS** com TTM e/ou TH, qual o momento mais precoce que você acha que os seguintes achados são **FORTEMENTE** indicativos de prognostico neurológico **DESFAVORÁVEL**?

Ausência bilateral de picos N20 no SSEP	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Níveis elevados de ENE	▼ Imediatamente após a parada cardíaca ... Não tenho certeza
Prognóstico ruim baseado no EEG	▼ Imediatamente após a parada cardíaca ... Não tenho certeza

▼ *Dropdown choices:*
Imediatamente após a parada cardíaca
24 horas pós-parada cardíaca
48 horas pós-parada cardíaca
72 horas pós-parada cardíaca
96 horas ou mais pós-parada cardíaca
24 horas após completamente reaquecido à normotermia
48 horas após completamente reaquecido à normotermia
72 24 horas após completamente reaquecido à normotermia
96 horas ou mais após completamente reaquecido à normotermia
Tempo pós-parada cardíaca não é relevante
Não tenho certeza

Page Break

Em qual momento você considera que TC (tomografia de crânio) é apropriada para avaliar o prognóstico neurológico de pacientes pós-parada cardíaca? Assinale todas as alternativas que se aplicam.

- ☐ Imediatamente pós-parada
- ☐ 24 horas pós-parada
- ☐ 48 horas pós-parada
- ☐ 72 horas pós-parada
- ☐ Outro _____

Qual o momento você considera mais apropriado para utilizar RM (ressonância magnética de crânio) para avaliar o prognóstico neurológico de pacientes pós-parada cardíaca?

- ○ Dia 0 (dia da parada cardíaca)
- ○ Dias 1-2
- ○ Dias 3-5
- ○ Dias 6-14
- ○ Outro _____

End of Block: Neuroprognostication

Start of Block: Clinical Decision-Making

As próximas questões abordarão a decisão clínica relativa ao cuidado do fim da vida.

Page Break

Usando a escala de Categorias de Performance Cerebral (CPC), como você define um prognóstico neurológico desfavorável no paciente pós-parada cardíaca? Use a tabela abaixo como referência.

CPC 1 Boa performance cerebral: consciente, alerta, apto a trabalhar, déficits neurológicos ou psicológicos leves ou ausentes.

CPC 2 Disfunção cerebral moderada: consciente, função cerebral suficiente para ser independente para atividades de vida diária. Apto a trabalhar em ambiente assistido

CPC 3 Disfunção cerebral grave: consciente, dependente de outros para atividades diárias devido à disfunção cerebral. Varia de pacientes deambulantes a pacientes com demência grave ou paralisia.

CPC 4 Coma ou estado vegetativo: qualquer estágio de coma que não preencha critério para morte encefálica. Ausência de percepção, mesmo que pareça acordado (estado vegetativo) sem interação com o ambiente; pode apresentar abertura ocular espontânea ou ciclo sono/vigília. Irresponsividade cerebral.

CPC 5 Morte cerebral: apnea, ausência de reflexos de tronco encefálico, EEG isoelétrico, etc.

- [ ] CPC 2 ou pior
- [ ] CPC 3 ou pior
- [ ] CPC 4 ou pior
- [ ] CPC 5

Q67 Em pacientes que **NÃO FORAM TRATADOS** com TTM e/ou TH que continuam em estado comatoso pós-parada cardíaca, qual o momento **MAIS PRECOCE** que você se sentiria confortável em fazer recomendações definitivas em relação ao prognóstico neurológico?
(Você terá a oportunidade em elaborar a reposta na parte discursiva ao final do questionário).

- Dia 1 pós-parada
- Dia 2 pós-parada
- Dia 3 pós-parada
- Dia 4 pós-parada
- Dia 5 pós-parada
- Dia 6 pós-parada ou depois

Em pacientes **TRATADOS** com TTM e/ou TH que continuam em estado comatoso pós-parada cardíaca, qual o momento **MAIS PRECOCE** que você se sentiria confortável em fazer recomendações definitivas em relação ao prognóstico neurológico?

(Você terá a oportunidade em elaborar a reposta na parte discursiva ao final do questionário).

- Dia 1 pós-parada
- Dia 2 pós-parada
- Dia 3 pós-parada
- Dia 4 pós-parada
- Dia 5 pós-parada
- Dia 6 pós-parada ou depois
- Dia 1 pós-reaquecimento completo à normotermia
- Dia 2 pós-reaquecimento completo à normotermia
- Dia 3 pós-reaquecimento completo à normotermia
- Dia 4 pós-reaquecimento completo à normotermia
- Dia 5 pós-reaquecimento completo à normotermia
- Dia 6 pós-reaquecimento completo à normotermia

Você acredita que ao melhorar a acurácia da avaliação de prognóstico neurológico pode-se impactar o processo de decisão sobre o fim da vida no Brasil?

- ○ Sim
- ○ Não
- ○ Talvez

Por que você **NÃO** acredita que melhorando a acurácia da avaliação de prognóstico neurológico pode-se impactar o processo de decisão sobre o fim da vida no Brasil? Assinale todas as alternativas que se aplicam.

- ☐ Médicos NÃO se sentirão confortáveis em suspender medidas de suporte de vida e estabelecer cuidados paliativos, mesmo quando as intervenções médicas agressivas são consideradas fúteis.
- ☐ Famílias NÃO se sentirão confortáveis em suspender medidas de suporte de vida e estabelecer cuidados paliativos, mesmo em pacientes com sequelas neurológicas devastadoras.
- ☐ Outro _____

Como uma avaliação mais aprimorada de prognóstico neurológico pós-parada cardíaca pode impactar o processo de decisão sobre o fim da vida no Brasil? Marque todos que se aplicam.

- ☐ Médicos se sentirão mais confortáveis em limitar medidas de suporte de vida e direcionar a cuidados paliativos
- ☐ Famílias se sentirão mais confortáveis em limitar medidas de suporte de vida e direcionar a cuidados paliativos
- ☐ Outro _____

Se você deseja elaborar suas respostas a questões desta seção por favor utilize o espaço abaixo (máximo de 2000 caracteres).

_____

_____

_____

_____

_____

End of Block: Clinical Decision-Making

Survey instrument (English). Drop-down selection choices are displayed in italics. Responses were captured electronically using a web-based survey tool (Qualtrics). The instrument is a modified and translated version of a previous survey that was tested in a group of neurointensivists at Yale New Haven Hospital and utilized in a cross-sectional study of 762 providers from 22 countries. The usability of the web-based questionnaire was tested by the authors prior to dissemination.

Participation and view rates were not available, and no unique site visitor identification methods (i.e., use of cookies, IP check, log file analysis) were employed. Participants were informed of the purpose of the study, the approximate length and duration of the survey, and the contact information for the investigator. Questions were non-randomized. Adaptive questioning features were used such that certain questions were conditionally displayed based on previous responses (i.e., only when applicable) in order to minimize the number of questions. A progress bar was visible throughout the survey, and respondents were able to review their responses and make changes prior to submission through use of a "Back" button. No more than 5 questions were displayed per page/screen, with all questions displayed across 15 pages/screens.

Though time to survey submission data were captured, no responses were excluded based on timestamp. A completeness check was not performed, as not all questions were mandatory. All physician responses (as determined by mandatory self-report) were included in the analysis, regardless of completeness or completion. Sixty-six of 196 responses (33.7%) were submitted prior to completion (defined as submission of the last page, regardless of completeness), with 55 of 196 (28%) having completed less than 50% of the survey. No weighting or propensity score adjustment was used in analyzing the data.

Start of Block: Introduction

Informed Consent Form The purpose of this survey is to investigate the approach of Brazilian physicians to neurological prognostication in post-cardiac arrest patients. Participation in this study will involve completing the enclosed brief survey. The survey is voluntary, anonymous and should take about 5-7 minutes to complete. Results from the survey will be analyzed to assist in the study design of a multicenter observational trial aimed at improving accuracy of neuroprognostication following cardiac arrest, and published at a later date.

You will receive no financial compensation or authorship credit for participating. There are no known or anticipated risks to you for participating. Although this study will not benefit you personally, we hope that our results will add to the knowledge about different approaches to neuroprognostication. All of your responses will be held in confidence, using only identifier codes for the purpose of tracking responses. Only the researchers involved in this study and those responsible for research oversight will have access to the information you provide. Your responses will be recorded by the survey software.

Participation in this study is completely voluntary. You are free to decline to participate, to end participation at any time for any reason, or to refuse to answer any individual question without penalty. Your decision whether or not to participate will not affect your relationship with the Yale University. If you have any questions about this study, you may contact the investigator, Emily Gilmore at (203) 737-8051, or at emily.gilmore@yale.edu. If you would like to talk with someone other than the researchers to discuss problems or concerns, to discuss situations in the event that a member of the research team is not available, or to discuss your rights as a research participant, you may contact the Yale University Human Subjects Committee, 203-785-4688, human.subjects@yale.edu. Additional information is available at http://www.yale.edu/hrpp/participants/index.html

Your time and responses are most appreciated. If you would like to proceed and agree to participate in the study, please click the arrow icon below to begin.

End of Block: Introduction

Start of Block: Demographics

Are you a physician?

- ○ Yes
- ○ No

Approximately how many successfully resuscitated cardiac arrest patients do you see at your primary hospital of practice each year?

- ○ 0
- ○ 1 - 25
- ○ 26 - 50
- ○ 51 - 75
- ○ > 75

Which of the following describe your specialty area of practice? Check all that apply.

- [ ] Anesthesia intensive care
- [ ] Cardiac intensive care
- [ ] Cardiology
- [ ] Cardiothoracic surgery
- [ ] Cardiothoracic intensive care
- [ ] Internal medicine
- [ ] General intensive care
- [ ] Emergency medicine
- [ ] Neurointensive care
- [ ] Neurology
- [ ] Neurosurgery
- [ ] Pediatric intensive care
- [ ] Pulmonary
- [ ] Surgical intensive care
- [ ] Trauma surgery
- [ ] Other _____

Have you completed a dedicated intensive care clinical training?

- ○ Yes
- ○ No

Which of the following best describe your practice setting? Check all that apply.

- ☐ Private hospital
- ☐ Public hospital
- ☐ University affiliated

What is the name of the hospital where you primarily practice?

_____

In which Brazilian state do you practice?

▼ Acre ... Tocantins

▼ *Dropdown choices:*
Acre
Alagoas
Amapa
Amazonas
Bahia
Ceara
Distrito Federal
Espirito Santo
Goias
Maranhao
Mato Grosso
Mato Grosso do Sul
Minas Gerais
Para
Paraiba
Parana
Pernambuco
Piaui
Rio de Janeiro
Rio Grande do Norte
Rio Grande do Sul
Rondonia
Roraima
Santa Catarina
Sao Paulo
Sergipe
Tocantins

In what year did you graduate from medical school?

▼ 2019 ... 1940

▼ *Dropdown choices: list of years, in reverse chronological order, from 2019 to 1940.*

For cardiac arrest patients at your primary hospital of practice, is targeted temperature management (TTM) and/or therapeutic hypothermia (TH) used as treatment?

- ○ Yes
- ○ No

When TTM/TH is used in post-cardiac arrest patients at your primary hospital of practice, what is the temperature you target?

- ○ 32-34 degrees Celsius
- ○ 32-36 degrees Celsius
- ○ 36 degrees Celsius

What cooling method do you routinely use when employing TTM/TH? Check all that apply.

- ☐ controlled cooling and rewarming loop feedback: endovascular catheter
- ☐ controlled cooling and rewarming loop feedback: esophageal cooling catheter
- ☐ controlled cooling and rewarming loop feedback: surface cooling adhesive pads
- ☐ controlled cooling and rewarming loop feedback: nasopharyngeal catheter
- ☐ non-controlled cooling and rewarming loop feedback: nasopharyngeal catheter
- ☐ non controlled cooling and rewarming loop feedback: cooling blankets
- ☐ ice packs
- ☐ cold saline
- ☐ fan

How long are post-cardiac arrest patients maintained at this target temperature at your primary hospital of practice?

- ○ < 24 hours
- ○ 24 hours
- ○ 24 - 48 hours
- ○ > 48 hours

End of Block: Demographics

Start of Block: Neuroprognostication

Assuming the neurological exam is always available, what other tools are available to you when evaluating neurological status in a post-cardiac arrest patient? Check all that apply.

- ☐ chemical biomarker- neuron specific enolase (NSE)
- ☐ electrophysiology - electroencephalogram (EEG)
- ☐ electrophysiology - somatosensory evoked potentials (SSEP)
- ☐ neuroimaging - computed tomography of head (CT head)
- ☐ neuroimaging - magnetic resonance imaging of brain (MRI brain)

With what frequency do you use each of the following neuroprognostic tools to gauge the severity of the hypoxic-ischemic brain injury in unresponsive post-cardiac arrest patients??

	Never	Rarely	Not so often	Very often	Almost always
chemical biomarker - NSE	○	○	○	○	○
electrophysiology - EEG	○	○	○	○	○
electrophysiology - SSEP	○	○	○	○	○
neuroimaging – CT head	○	○	○	○	○
neuroimaging – MRI brain	○	○	○	○	○

If **ALL** of the following tools were at your disposal, how important would you consider them to be in assessing the neurological prognosis of post-cardiac arrest patients?

	Not at all important	Somewhat important	Very important	Critically important
chemical biomarker - NSE	○	○	○	○
electrophysiology - EEG	○	○	○	○
electrophysiology - SSEP	○	○	○	○
neuroimaging – CT head	○	○	○	○
neuroimaging – MRI brain	○	○	○	○
pupillary light reflex	○	○	○	○
corneal reflex	○	○	○	○
Glasgow Coma Scale motor response	○	○	○	○
Observation of post-cardiac arrest myoclonus	○	○	○	○

Assuming a full coma exam is performed as routine, which of the following neurological exam findings do you consider relevant when assessing neurological prognosis of a post-cardiac arrest patient? Check all that apply.

- [ ] Eye opening
- [ ] Corneal reflex
- [ ] Cough reflex
- [ ] Gag reflex
- [ ] Motor response
- [ ] Oculocephalic reflex (“doll’s eyes”)
- [ ] Pupillary light reflex
- [ ] Vestibulocular reflex (“cold calorics”)

How do you assess pupillary light reflex? Choose one. (If you use multiple techniques, choose the one you feel to be most definitive.)

- ○ Light with magnifying glass
- ○ Light with naked eye
- ○ Pupillometer

How do you assess corneal reflex? Choose one. (If you use multiple techniques, choose the one you feel to be most definitive.)

- ○ Light cotton touch
- ○ Saline/water squirt
- ○ Cotton-tipped applicator with pressure
- ○ Puff of air

Click on the area of the eye where you assess for corneal reflex.

Q45 How do you assess motor response? Check all that apply.

- ☐ Trapezius squeeze
- ☐ Proximal limb noxious stimulation
- ☐ Sternal rub
- ☐ Nipple pinch
- ☐ Temporomandibular joint pressure
- ☐ Nailbed pressure
- ☐ Supraorbital pressure
- ☐ Other _____

In post-cardiac arrest patients N**OT** treated with TTM and/or TH, what is the earliest time point at which you feel the following exam findings are **STRONGLY** indicative of **POOR** neurological prognosis?

Absent corneal reflex	▼Immediately after arrest … I'm not sure
Absent cough reflex	▼Immediately after arrest … I'm not sure
Absent or extensor motor response	▼Immediately after arrest … I'm not sure
Absent gag reflex	▼Immediately after arrest … I'm not sure
Absent oculocephalic reflex	▼Immediately after arrest … I'm not sure
Absent pupillary light reflex	▼Immediately after arrest … I'm not sure
Absent vestibulocular reflex	▼Immediately after arrest … I'm not sure

▼ *Dropdown choices:*
Immediately after arrest
24 hours post-cardiac arrest
48 hours post-cardiac arrest
72 hours post-cardiac arrest
96 hours or more post-cardiac arrest
Post-cardiac arrest time is not relevant
I'm not sure

In post-cardiac arrest patients **TREATED** with TTM and/or TH, what is the earliest time point at which you feel the following exam findings are **STRONGLY** indicative of **POOR** neurological prognosis?

Absent corneal reflex	▼Immediately after arrest … I'm not sure
Absent cough reflex	▼Immediately after arrest … I'm not sure
Absent or extensor motor response	▼Immediately after arrest … I'm not sure
Absent gag reflex	▼Immediately after arrest … I'm not sure
Absent oculocephalic reflex	▼Immediately after arrest … I'm not sure
Absent pupillary light reflex	▼Immediately after arrest … I'm not sure
Absent vestibulocular reflex	▼Immediately after arrest … I'm not sure

▼ *Dropdown choices:*
Immediately after arrest
24 hours post-cardiac arrest
48 hours post-cardiac arrest
72 hours post-cardiac arrest
96 hours or more post-cardiac arrest
24 hours post-completion of rewarming
48 hours post-completion of rewarming
72 hours post-completion of rewarming
96 hours or more post-completion of rewarming
Post-cardiac arrest time is not relevant
I'm not sure

Page Break

In post-cardiac arrest patients **NOT** treated with TTM and/or TH, what is the earliest time point at which you feel the following findings are **STRONGLY** indicative of **POOR** neurological prognosis?

Bilateral absent N20 peaks on SSEP	▼Immediately after arrest … I'm not sure
Elevated NSE levels	▼Immediately after arrest … I'm not sure
Poor prognosis based on EEG	▼Immediately after arrest … I'm not sure

▼ *Dropdown choices:*
Immediately after arrest
24 hours post-cardiac arrest
48 hours post-cardiac arrest
72 hours post-cardiac arrest
96 hours or more post-cardiac arrest
Post-cardiac arrest time is not relevant
I'm not sure

In post-cardiac arrest patients **TREATED** with TTM and/or TH, what is the earliest time point at which you feel the following findings are **STRONGLY** indicative of **POOR** neurological prognosis?

Bilateral absent N20 peaks on SSEP	▼Immediately after arrest … I'm not sure
Elevated NSE levels	▼Immediately after arrest … I'm not sure
Poor prognosis based on EEG	▼Immediately after arrest … I'm not sure

▼ *Dropdown choices:*
Immediately after arrest
24 hours post-cardiac arrest
48 hours post-cardiac arrest
72 hours post-cardiac arrest
96 hours or more post-cardiac arrest
24 hours post-completion of rewarming
48 hours post-completion of rewarming
72 hours post-completion of rewarming
96 hours or more post-completion of rewarming
Post-cardiac arrest time is not relevant
I'm not sure

Page Break

What time point(s) do you feel CT is appropriate for assessing the neurological prognosis of post-cardiac arrest patients? Check all that apply.

- [ ] Immediately post-arrest
- [ ] 24 hours post-arrest
- [ ] 48 hours post-arrest
- [ ] 72 hours post-arrest
- [ ] Other _____

What do you feel is the most appropriate time range in which to use MRI for assessing neurological prognosis of post-cardiac arrest patients?

- ○ Day 0 (day of arrest)
- ○ Days 1-2
- ○ Days 3-5
- ○ Days 6-14
- ○ Other _____

End of Block: Neuroprognostication

Start of Block: Clinical Decision-Making

The last several questions will address clinical decision-making about end-of-life care.

Page Break

Using the Cerebral Performance Categories (CPC) Scale, how do you define poor neurological prognosis in a post-cardiac arrest patient? Refer to the table below.

CPC 1 Good cerebral performance: conscious, alert, able to work, might have mild neurologic or psychologic deficit.

CPC 2 Moderate cerebral disability: conscious, sufficient cerebral function for independent activities of daily life. Able to work in sheltered environment.

CPC 3 Severe cerebral disability: conscious, dependent on others for daily support because of impaired brain function. Ranges from ambulatory state to severe dementia or paralysis.

CPC 4 Coma or vegetative state: any degree of coma without the presence of all brain death criteria. Unawareness, even if appears awake (vegetative state) without interaction with environment; may have spontaneous eye opening and sleep/awake cycles. Cerebral unresponsiveness.

CPC 5 Brain death: apnea, areflexia, EEG silence, etc.

- [ ] CPC 2 or worse
- [ ] CPC 3 or worse
- [ ] CPC 4 or worse
- [ ] CPC 5

Q67 For patients **NOT** treated with TTM and/or TH who continue to remain in a comatose state after cardiac arrest, what is the **EARLIEST** time point you would feel comfortable making final/definitive recommendations regarding neurological prognosis?

(You will have an opportunity to elaborate in free text at the end of the survey.)

- ○ Day 1 post-arrest
- ○ Day 2 post-arrest
- ○ Day 3 post-arrest
- ○ Day 4 post-arrest
- ○ Day 5 post-arrest
- ○ Day 6 post-arrest or later

For patients **TREATED** with TTM and/or TH who continue to remain in a comatose state after cardiac arrest, what is the **EARLIEST** time point you would feel comfortable making final/definitive recommendations regarding neurological prognosis?

(You will have an opportunity to elaborate in free text at the end of the survey.)

- ○ Day 1 post-arrest
- ○ Day 2 post-arrest
- ○ Day 3 post-arrest
- ○ Day 4 post-arrest
- ○ Day 5 post-arrest
- ○ Day 6 post-arrest or later
- ○ Day 1 post-completion of rewarming
- ○ Day 2 post-completion of rewarming
- ○ Day 3 post-completion of rewarming
- ○ Day 4 post-completion of rewarming
- ○ Day 5 post-completion of rewarming
- ○ Day 6 post-completion of rewarming

Do you believe that improving the accuracy of neuroprognostic assessments can impact end-of-life decision making and practices in Brazil?

- ○ Yes
- ○ No
- ○ Maybe

Why DON'T you believe that improving accuracy of neuroprognostication post-cardiac arrest will impact end-of-life decision making and practices in Brazil? Check all that apply.

- ☐ Providers will NOT feel comfortable withdrawing life-prolonging measures and instituting hospice care, even when aggressive medical interventions are considered futile.
- ☐ Families will NOT allow for withdrawing life-prolonging measures and instituting hospice care, even in neurologically devastated patients.
- ☐ Other _____

How can improved neuroprognostication post-cardiac arrest will impact end-of-life decision making and practices in Brazil? Check all that apply.

- ☐ Providers will feel more comfortable limiting life prolonging measures and transitioning to hospice care
- ☐ Families will feel more comfortable limiting life prolonging measures and transitioning to hospice care
- ☐ Other _____

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*

If you would like to elaborate on your responses to the questions in this section please do so in the text box below. (maximum 2000 characters.)

_____

End of Block: Clinical Decision-Making

Checklist for Reporting Results of Internet E-Surveys (CHERRIES)

Checklist Item	***Explanation***	***Page Number***
Describe survey design	Describe target population, sample frame. Is the sample a convenience sample? (In "open" surveys this is most likely.)	7-8
IRB approval	Mention whether the study has been approved by an IRB.	8
Informed consent	Describe the informed consent process. Where were the participants told the length of time of the survey, which data were stored and where and for how long, who the investigator was, and the purpose of the study?	Supplement
Data protection	If any personal information was collected or stored, describe what mechanisms were used to protect unauthorized access.	N/A – no personal information was collected.
Development and testing	State how the survey was developed, including whether the usability and technical functionality of the electronic questionnaire had been tested before fielding the questionnaire.	8; supplement
Open survey versus closed survey	An "open survey" is a survey open for each visitor of a site, while a closed survey is only open to a sample which the investigator knows (password-protected survey).	8
Contact mode	Indicate whether or not the initial contact with the potential participants was made on the Internet. (Investigators may also send out questionnaires by mail and allow for Web-based data entry.)	8
Advertising the survey	How/where was the survey announced or advertised? Some examples are offline media (newspapers), or online (mailing lists – If yes, which ones?) or banner ads (Where were these banner ads posted and what did they look like?). It is important to know the wording of the announcement as it will heavily influence who chooses to participate. Ideally the survey announcement should be published as an appendix.	8
Web/E-mail	State the type of e-survey (eg, one posted on a Web site, or one sent out through e-mail). If it is an e-mail survey, were the responses entered manually into a database, or was there an automatic method for capturing responses?	8; supplement
Context	Describe the Web site (for mailing list/newsgroup) in which the survey was posted. What is the Web site about, who is visiting it, what are visitors normally looking for? Discuss to what degree the content of the Web site could pre-select the sample or influence the results. For example, a survey about vaccination on a anti-immunization Web site will have different results from a Web survey conducted on a government Web site	8
Mandatory/voluntary	Was it a mandatory survey to be filled in by every visitor who wanted to enter the Web site, or was it a voluntary survey?	8

Incentives	Were any incentives offered (eg, monetary, prizes, or non-monetary incentives such as an offer to provide the survey results)?	8
Time/Date	In what timeframe were the data collected?	8
Randomization of items or questionnaires	To prevent biases items can be randomized or alternated.	Supplement
Adaptive questioning	Use adaptive questioning (certain items, or only conditionally displayed based on responses to other items) to reduce number and complexity of the questions.	Supplement
Number of Items	What was the number of questionnaire items per page? The number of items is an important factor for the completion rate.	Supplement
Number of screens (pages)	Over how many pages was the questionnaire distributed? The number of items is an important factor for the completion rate.	Supplement
Completeness check	It is technically possible to do consistency or completeness checks before the questionnaire is submitted. Was this done, and if “yes”, how (usually JAVAScript)? An alternative is to check for completeness after the questionnaire has been submitted (and highlight mandatory items). If this has been done, it should be reported. All items should provide a non-response option such as “not applicable” or “rather not say”, and selection of one response option should be enforced.	Supplement
Review step	State whether respondents were able to review and change their answers (eg, through a Back button or a Review step which displays a summary of the responses and asks the respondents if they are correct).	Supplement
Unique site visitor	If you provide view rates or participation rates, you need to define how you determined a unique visitor. There are different techniques available, based on IP addresses or cookies or both.	Supplement
View rate (Ratio of unique survey visitors/unique site visitors)	Requires counting unique visitors to the first page of the survey, divided by the number of unique site visitors (not page views!). It is not unusual to have view rates of less than 0.1 % if the survey is voluntary.	Supplement
Participation rate (Ratio of unique visitors who agreed to participate/unique first survey page visitors)	Count the unique number of people who filled in the first survey page (or agreed to participate, for example by checking a checkbox), divided by visitors who visit the first page of the survey (or the informed consents page, if present). This can also be called “recruitment” rate.	17; Supplement
Completion rate (Ratio of users who	The number of people submitting the last questionnaire page, divided by the number of people who agreed to participate (or submitted the first survey page). This is only relevant if there is a separate “informed	Supplement

finished the survey/users who agreed to participate)	consent" page or if the survey goes over several pages. This is a measure for attrition. Note that "completion" can involve leaving questionnaire items blank. This is not a measure for how completely questionnaires were filled in. (If you need a measure for this, use the word "completeness rate".)	
Cookies used	Indicate whether cookies were used to assign a unique user identifier to each client computer. If so, mention the page on which the cookie was set and read, and how long the cookie was valid. Were duplicate entries avoided by preventing users access to the survey twice; or were duplicate database entries having the same user ID eliminated before analysis? In the latter case, which entries were kept for analysis (eg, the first entry or the most recent)?	Supplement
IP check	Indicate whether the IP address of the client computer was used to identify potential duplicate entries from the same user. If so, mention the period of time for which no two entries from the same IP address were allowed (eg, 24 hours). Were duplicate entries avoided by preventing users with the same IP address access to the survey twice; or were duplicate database entries having the same IP address within a given period of time eliminated before analysis? If the latter, which entries were kept for analysis (eg, the first entry or the most recent)?	Supplement
Log file analysis	Indicate whether other techniques to analyze the log file for identification of multiple entries were used. If so, please describe.	Supplement
Registration	In "closed" (non-open) surveys, users need to login first and it is easier to prevent duplicate entries from the same user. Describe how this was done. For example, was the survey never displayed a second time once the user had filled it in, or was the username stored together with the survey results and later eliminated? If the latter, which entries were kept for analysis (eg, the first entry or the most recent)?	N/A – open survey
Handling of incomplete questionnaires	Were only completed questionnaires analyzed? Were questionnaires which terminated early (where, for example, users did not go through all questionnaire pages) also analyzed?	Supplement
Questionnaires submitted with an atypical timestamp	Some investigators may measure the time people needed to fill in a questionnaire and exclude questionnaires that were submitted too soon. Specify the timeframe that was used as a cut-off point, and describe how this point was determined.	Supplement
Statistical correction	Indicate whether any methods such as weighting of items or propensity scores have been used to adjust for the non-representative sample; if so, please describe the methods.	8-9; supplement

This checklist has been modified from Eysenbach G. Improving the quality of Web surveys: the Checklist for Reporting Results of Internet E-Surveys (CHERRIES). J Med Internet Res. 2004 Sep 29;6(3):e34 [erratum in J Med Internet Res. 2012; 14(1): e8.]. Article available at