**CARDIAC ARREST AWARENESS AND LONG-TERM QUALITY OF LIFE: A MIXED METHODS STUDY OF THE EXPERIENCES AND PSYCHOLOGICAL CONSEQUENCES OF ADULT CARDIAC ARREST QUESTIONNAIRES**

**Phase I**: The following tools will be use to screen cardiac arrest survivors and identify the presence of psychological outcomes that indicate depression, anxiety, PTSD; to evaluate the presence of cognitive experiences, awareness or recollections from the time of CA resuscitation. For the purpose of this study, some statements in the questionnaires have been adapted to reference the cardiac arrest event rather than other events.

Participants will see the following statement below in order to begin the pre-screening section of this study.

"Cardiac arrest survivorship: A Mixed Method Study" is a research study that will evaluate cardiac arrest survivors' experiences during cardiopulmonary resuscitation (CPR), as well as the long-term psychological effects of surviving a cardiac arrest.

Before we can enroll you in the study, we need to determine your eligibility. We will need you to complete a few questions which should only take 1-2 minutes of your time. If you are eligible to participate in this study, we will provide more information about the study and you will be able to continue to the next section.

 **Thank you for your participation!**

***Pre-screening:*** Phase I will include a pre-screening section that will address specific inclusion/exclusion criteria for Phase I. Participants who are over the age of 18 and have previously experienced a cardiac arrest will have access to phase I screening questionnaires.

1. Are you 18 years or older?
	1. Yes
	2. No
2. Have you ever had a cardiac arrest?

*Cardiac arrest is defined as the abrupt loss of heart function in a person who may or may not have been diagnosed with an underlying heart condition.*

* 1. Yes
	2. No
1. Do you currently have a disorder that will impact your ability to accurately describe your cardiac arrest event (Such as, Dementia, Alzheimer’s etc.)?
	1. Yes
	2. No
2. What is your Country of residence? (Drop Down List of Countries)

*Participation in the United Kingdom will begin mid-August 2020. If you are a resident of the United Kingdom please check back at a later date to determine eligibility for this study.*

Scoring Instructions: Participants who report to be less than 18 years old (question # 1 of Pre-Screen Questionnaire) and have not experienced a cardiac arrest (question # 2 of Pre-Screen Questionnaire) and report that they currently have a disorder that will impact their ability to accurately describe their cardiac arrest (question # 3 of Pre-Screen Questionnaire) will NOT continue to the Participant Consent Form and other Phase I questionnaire(s).

Survey Completion Text

Thank you for your interest in this study. Unfortunately, at this time you did not meet the requirements to begin the next phase of this study. If you believe this is an error please contact a research team member at resuscitationlab@nyulangone.org

Have a nice day!

***Eligible participants will review the consenting page and those who agree to participate in the study will move on Phase I screening questionnaires.***

***1. Screening Questionnaire 1 (SQ1): demographics, clinical and social support information***

This assessment, was developed by the NYULH research team. Basic demographic and clinical information will be collected. These data will be obtained directly from patients (e.g., age, sex, religion, medical history, social support). It will be entered and stored securely in the study data capture system. Where available, additional data will be collected, to include: date/time of CA, location of in-Hospital or out-of-Hospital, duration of resuscitation (Cardiopulmonary resuscitation) and initial rhythm. In order to access this information, the participants will have to agree to their release from study sites or request it themselves from their hospitals.

*Instructions: Please answer the following questions:*

1. What is your first name?
2. What is your last name? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is your Date of Birth? \_\_\_\_\_\_\_\_\_\_\_\_
4. What is the best email address to reach you? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*This information is required for the research team to contact you to continue participation in this study.*

1. What is the best phone number to reach you? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*This information is required for the research team to contact you to continue participation in this study.*

1. How did you hear about this study
	1. Invitation letter though my local hospital
	2. Social media
	3. Cardiac arrest support group website
	4. Research team’s website (NYU Langone Health)
	5. A friend or family member
	6. Other\_\_\_\_\_

*\*If the respondent reports a, they will complete questions 7; If the respondent reports b, they will complete questions 8; If the respondent reports c, they will complete questions 9; If the respondent reports f, they will complete questions 10\**

1. If you answered “invitation letter through my local hospital”, please specify which hospital
	1. Drop down of participating hospitals or fill in the blank
2. If you answered “social media”, please specify
	1. Facebook
	2. Twitter
	3. Instagram
	4. LinkedIn
	5. Google+
	6. Reddit
	7. Other\_\_\_\_\_\_\_\_\_
3. If you answered “cardiac arrest support groups website” please specify
	1. Sudden Cardiac Arrest UK
	2. British Heart Foundation
	3. American Heart Association
	4. Sudden Cardiac Arrest Foundation
	5. Sudden Cardiac Arrest Association
	6. Other (please specify)\_\_\_\_\_\_\_\_\_
4. If you answered Other, please specify:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Ethnicity:
	1. Hispanic or Latino
	2. Not Hispanic or Latino
2. Race
	1. Black (For example, African American, Black British, Caribbean)
	2. Far Eastern Asian (For example, China, South Korea, Japan)
	3. Southern Asian (For example, India, Pakistan, Bangladesh)
	4. White (For example, European, Middle Eastern, North Africa)
	5. American Indian or Alaska Native
	6. Native Hawaiian or Other Pacific Islander
	7. Two or more races
	8. Other (please specify)\_\_\_\_\_\_
3. Gender:
	1. Female
	2. Male
4. Which of the following best describes your religious affiliation?
	1. Christian
	2. Islamic
	3. Buddhism
	4. Hinduism
	5. Judaism
	6. Atheist
	7. Agnostic
	8. Other Religion (please specify)
5. How religious do you consider yourself to be?
	1. Not religious
	2. Slightly religious
	3. Moderately religious
	4. Very Religious
	5. I don’t know
6. How often do you attend religious services at a place of worship?
	1. Never
	2. Less than once a year
	3. Once or twice a year
	4. Several times a year
	5. Once a month
	6. 2-3 times a month
	7. About once a week
	8. Several times a week
7. How spiritual do you consider yourself to be?

(For the purpose of this survey we define spirituality as a fundamental element of human experience. It encompasses the individual’s search for meaning and purpose in life and the experience of the transcendent.)

* 1. Not spiritual
	2. Slightly spiritual
	3. Moderately spiritual
	4. Very spiritual
1. What is your highest level of education?
	1. Doctoral or professional degree
	2. Master’s degree
	3. Bachelor’s degree
	4. Associate’s degree
	5. Some College, no degree
	6. High School diploma or equivalent
	7. Less than High School
2. Have you had more than one cardiac arrest in your life?
	1. Yes
	2. No

*If yes then prompt them to complete question #20*

1. How many cardiac arrests have you had? \_\_\_\_\_\_\_\_*(Dropdown of numbers)*
2. When did you experience your first cardiac arrest? \_\_\_\_\_\_\_\_\_\_\_(MM/YYYY) \_\_\_\_\_\_\_\_\_\_
3. Where were you when you had your first cardiac arrest?
	1. At Home
	2. At Work
	3. At a Hospital
	4. In a public setting (Grocery store, Restaurant, School etc.)
	5. Other \_\_\_\_\_\_\_
4. Have you been able to return to your normal daily activities since your cardiac arrest (Such as, laundry, walking up stairs, cooking, driving, going to work, etc.)?
	1. Yes, I have returned to my daily activities and do not require help/assistance, I did not require help or assistance prior to my cardiac arrest.
	2. Yes, I have returned to my daily activities and require the same amount of assistance that was needed prior to my cardiac arrest event.
	3. No, I have not been able to return to some of my normal daily activities, and require help/assistance with completing some daily activities and chores.
	4. No, I have not been able to return to any of my normal daily activities, and require help/assistance with completing daily activities and chores.
	5. None of the above.
5. Has your physician diagnosed you with major depression or have you been suffering from depression based on the following definition:

*Major depression is characterized by a persistently depressed mood and long-term loss of pleasure or interest in life, often with other symptoms such as disturbed sleep, feelings of guilt or inadequacy, and suicidal thoughts.*

* 1. Yes
	2. No

*If the respondent replies “Yes” they will be prompted to 25 and 26.*

1. How has your level of depression changed over time in relation to your cardiac arrest event?
2. I feel I have become much less depressed since my cardiac arrest
3. I feel I have become moderately less depressed since my cardiac arrest
4. I feel there is no difference in my level of depression since my cardiac arrest
5. I feel I have become moderately more depressed since my cardiac arrest
6. I feel I have become much more depressed since my cardiac arrest
7. When did you first begin experiencing symptoms of major depression in relation to your cardiac arrest?
	1. **Before** my first cardiac arrest event
	2. **After** my first cardiac arrest event
8. Has your physician diagnosed you with an anxiety disorder or have you been suffering from anxiety based on the following definition:

*Individuals with an anxiety disorder display excessive anxiety or worry, most days for at least 6 months, about a number of things such as personal health, social interactions, and everyday routine life circumstances.*

* 1. Yes
	2. No

*If the respondent replies “Yes” they will be prompted to 28 and 29.*

1. How has your level of anxiety changed over time in relation to your cardiac arrest event?
2. I feel I have become much less anxious since my cardiac arrest
3. I feel I have become moderately less anxious since my cardiac arrest
4. I feel there is no difference in my level of anxiety since my cardiac arrest
5. I feel I have become moderately more anxious since my cardiac arrest
6. I feel I have become much more anxious since my cardiac arrest
7. When did you first begin experiencing symptoms of anxiety in relation to your cardiac arrest event?
	1. **Before** my first cardiac arrest event
	2. **After** my first cardiac arrest event
8. Has your physician diagnosed you with Post-Traumatic Stress Disorder (PTSD) or have you been suffering from PTSD based on the following definition:

*PTSD is a condition that's triggered by a terrifying event — either experiencing it or witnessing it. Symptoms may include flashbacks, nightmares, and severe anxiety, as well as uncontrollable thoughts about the witnessed/experienced terrifying event.*

* 1. Yes
	2. No

*If the respondent replies “Yes” they will be prompted to 31 and 32.*

1. How has your level of PTSD symptoms changed over time in relation to your cardiac arrest event?
2. I feel I have become much less affected by symptoms of PTSD since my cardiac arrest
3. I feel I have become moderately less affected by symptoms of PTSD since my cardiac arrest
4. I feel there is no difference in my level of symptoms of PTSD since my cardiac arrest
5. I feel I have become moderately more affected by symptoms of PTSD since my cardiac arrest
6. I feel I have become much more affected by symptoms of PTSD since my cardiac arrest
7. When did you first begin experiencing symptoms of PTSD in relation to your cardiac arrest event?
	1. **Before** my first cardiac arrest event
	2. **After** my first cardiac arrest event

## 2. Screening Questionnaire 2 (SQ2):

This assessment, developed by the research team, will consist of a number of questions to assess for the prevalence of some level of awareness and/or cognitive experiences during cardiac arrest and in particular from the period of unconsciousness during cardiac arrest.

*Instructions: Please answer the following questions:*

1. During your cardiac arrest(s) did you experience any memories from the period when you were unconscious? *For example: Some people have recalled experiencing a sensation of a bright warm light, entering a beautiful place, encountering relatives or a compassionate and powerful being, and more.*
	1. Yes
	2. No

1a. More specifically, did you experience any of the following:

|  |  |  |
| --- | --- | --- |
| Experiences or Memories from the Period of Unconscious | Yes | No |
| a. A sensation of a bright warm light |  |  |
| b. A tunnel |  |  |
| c. A review of your life – including your actions and thought |  |  |
| d. Entering a beautiful place |  |  |
| e. Encountering relatives who had passed away previously |  |  |
| f. Encountering a being that is compassionate and powerful |  |  |
| g. Observing events happening in the room during period of unconsciousness  |  |  |
| h. Other experience (Please describe) |  |  |

1. *Please explain your experience in as much detail as possible.*
	1. *If you have experienced multiple cardiac arrests please distinguish each experience or memory below with its respective cardiac arrest. For example:*

*Cardiac Arrest 1: My experience was…*

*Cardiac Arrest 2: My experience was…*

Scoring Instructions: Participants who report any memory or awareness during the cardiac arrest will be ask to participate in Phase II-Group A. Participants who report no experience of awareness or memories will be ask to participate in Phase II- Group B.

## The Generalized Anxiety Disorder Questionnaire (GAD-7):

|  |
| --- |
| *Instructions: In relation to your life after your cardiac arrest, how often have you been bothered by the following problems? Choose the best answer. the best answer.* |
|  | Not at all | Several days | More than half the days | Nearly every day |
| 1. Feeling nervous, anxious or on edge  | 0 | 1 | 2 | 3 |
| 2. Not being able tostop or control worrying  | 0 | 1 | 2 | 3 |
| 3. Worrying too much about different things  | 0 | 1 | 2 | 3 |
| 4. Trouble relaxing | 0 | 1 | 2 | 3 |
| 5. Being so restless that it is hard to sit still  | 0 | 1 | 2 | 3 |
| 6. Becoming easily annoyed or irritable  | 0 | 1 | 2 | 3 |
| 7. Feeling afraid as ifsomething awful might happen.  | 0 | 1 | 2 | 3 |
| Add the score for each column | + | + | + | + |

This tool will be used to evaluate the presence of anxiety in cardiac arrest survivors. It is a 7-item model testing the frequency of feeling nervous or fearful after the cardiac arrest period, from never to nearly every day.

Total Score (add your column scores) =

If you checked off any problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all

Somewhat difficult

Very difficult

Extremely difficult

Scoring Instructions: This is calculated by assigning scores of 0, 1, 2, and 3 to the response categories, respectively, of “not at all,” “several days,” “more than half the days,” and “nearly every day.”

GAD-7 total score for the seven items ranges from 0 to 21.

0–4: minimal anxiety

5–9: mild anxiety

10–14: moderate anxiety

15–21: severe anxiety

*Source: Primary Care Evaluation of Mental Disorders Patient Health Questionnaire (PRIME-MD-PHQ). The PHQ was developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke, and colleagues. For research information, contact Dr. Spitzer at* *ris8@columbia.edu.* *PRIME-MD® is a trademark of Pfizer Inc. Copyright© 1999 Pfizer Inc. All rights reserved. Reproduced with permission.*

## The Patient Health Questionnaire-9 (PHQ-9):

This tool will be used to assess the frequency of having depressive thoughts after the cardiac arrest period. The 9 items assess patients’ feelings regarding sleep, energy, appetite, restlessness, and concentration.

*Instructions: In relation to your life after your cardiac arrest, how often have you been bothered by any of the following problems? Choose the best answer.*



Scoring Instructions: Scores from 0-27 ranges will determine depression severity.

0- 4 None- minimal, 5-9 – Mild, 10-14 – Moderate, 15-19 – Moderate Severe, 20-27 - Severe

Developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer Inc. No permission required to reproduce, translate, display or distribute.

If you checked off any of the above problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all

Somewhat difficult

Very difficult

Extremely difficult

## The Short Screening Scale for Post-Traumatic Stress Disorder (SSS PTSD):

This is a questionnaire developed to explore 7 items according to the DSM IV definition of PTSD.

|  |
| --- |
| ***Please answer the following questions in relation to your life after your cardiac arrest:*** |
| 1. Did you avoid being reminded of this experience by staying away from certain places, people, or activities? Yes No |
| 1. Did you lose interest in activities that were once important or enjoyable? Yes No
2. Did you begin to feel more isolated or distant from other people? Yes No
3. Did you find it hard to have love or affection for other people? Yes No
 |
| 5. Did you begin to feel that there was no point in planning for the future? Yes No |
| 6. After this experience were you having more trouble than usual falling asleep or staying asleep? Yes No |
| 7. Did you become jumpy or get easily startled by ordinary noises or movements? Yes No |

*Instructions: Choose the best answer.*

Scoring Instructions: Responses are YES=1 or NO=0. The scale is scored by summing all responses. Scale scores may range from 0 to 7. A score of 4 or more on the seven-symptom screening scale indicates the presence of PTSD

*Weathers FW, Keane TM, Davidson JR. Clinician-administered PTSD scale: a review of the first ten years of research. Depres Anxiety. 2001; 13:1326*

## The Short Form-12 (SF-12) questionnaire version 1:

 This questionnaire assesses the multiple dimensions of Health-Related Quality of Life. The 12 questions evaluate 8 domains: physical functioning, physical role, bodily pain, general health, vitality, social functioning, emotional role, and mental health.

*Instructions: This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities* ***after the cardiac arrest event****. Answer each question by choosing just one answer. If you are unsure how to answer a question, please give the best answer you can.*

**SF-12 Health Survey**

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities. **Answer each question by choosing just one answer**. If you are unsure how to answer a question, please give the best answer you can.

1. In general, would you say your health is:

**□**1 Excellent **□**2 Very good **□**3 Good **□**4 Fair **□**5 Poor

The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

|  |  |  |  |
| --- | --- | --- | --- |
|  | **YES,** | **YES,** | **NO, not** |
| **limited** | **limited** | **limited** |
| **a lot** | **a little** | **at all** |
| 2. **Moderate activities** such as moving a table, pushinga vacuum cleaner, bowling, or playing golf. | **□**1 | **□**2 | **□**3 |

3. Climbing **several** flights of stairs. **□**1 **□**2 **□**3

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

|  |  |  |
| --- | --- | --- |
|  | **YES** | **NO** |
| 4. **Accomplished less** than you would like. | **□**1 | **□**2 |
| 5. Were limited in the **kind** of work or other activities. | □1 | **□**2 |

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

|  |  |  |
| --- | --- | --- |
|  | **YES** | **NO** |
| 6. **Accomplished less** than you would like. | □1 | **□**2 |
| 7. Did work or activities **less carefully than usual**. | □1 | **□**2 |

8. During the past 4 weeks, how much did pain interfere with your normal work (including work outside the home and housework)?

**□**1 Not at all **□**2 A little bit **□**3 Moderately **□**4 Quite a bit **□**5 Extremely

These questions are about how you have been feeling during the past 4 weeks.

For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks…

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | All of thetime | Most of thetime | A good bit ofthe time | Some of thetime | A little of thetime | None of thetime |
| 9. Have you felt calm & peaceful? | **□**1 | **□**2 | **□**3 | **□**4 | **□**5 | **□**6 |
| 10. Did you have a lot of energy? | **□**1 | **□**2 | □3 | **□**4 | **□**5 | **□**6 |
| 11. Have you felt down-hearted and | **□**1 | **□**2 | □3 | **□**4 | **□**5 | **□**6 |
|  blue? |  |  |  |  |  |  |

12. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?

**□**1 All of the time **□**2 Most of the time **□**3 Some of the time **□**4 A little of the time **□**5 None of the time

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Patient name: |  | Date: |  | PCS: | MCS: |
| Visit type (circle one)Preop 6 week | 3 month | 6 month | 12 month | 24 month | Other:  |

**Phase II**:

The following tools will be use to **interview** cardiac arrest survivors (Phase II-Group A and Phase II-Group B) with or without cognitive experiences or awareness during the cardiac arrest and/or the presence of psychological outcomes that indicate depression, anxiety and PTSD.

## Pre-screening :Telephone Interview for Cognitive Status (TICS):

The TICS test measures cognitive function developed for screening large populations with patients who are unable to be tested face-to-face. This test is designed to be administered through a telephone call or in person.

*(I) Explain exam to subject (or patient's caregiver). (2) Get address. (3) Be sure distractions are minimal (e.g., no T.V. or radio on, remove pens and pencils from reach). (4) Be sure sources of orientation (e.g., newspapers, calendars) are not in subject's view. (5) Caregivers may offer reassurance, but not assistance. (6) Single repetitions permitted, except for items 5 and 8.*

*Instructions: I am going to ask you some questions to test your memory. Some of these are likely to be easy for you, but some may be difficult. Please bear with me and try to answer all the questions as best you can. If you can't answer a question, don't worry. Just try your best. Are you ready?*

*These instructions may be repeated verbatim or paraphrased, if necessary. If the patient does not complete this instrument correctly, at the interviewer’s discretion the interview could be stopped or completed with the help of a family member.*

|  |
| --- |
| **1. Please tell me your full name** |
| First Name: | Correct | Incorrect |
| Last Name | Correct | Incorrect |
| **2. What is today's date?** Probe for month, date, year, day of week and season if any not provided spontaneously |
| Month | Correct | Incorrect |
| Day | Correct | Incorrect |
| Year | Correct | Incorrect |
| What day of the week is it? | Correct | Incorrect |
| What season is it?(e.g. a hot day in June is summer) | Correct | Incorrect |
| **3. Where are you right now?**Probe for house number, street, city, state, and zip code if any not provided spontaneously. If the patient is in a facility with no house number (e.g. hospital, nursing home), the name of the facility may substitute for the house number |
| What is the house number/facility name? | Correct | Incorrect |
| What is the street? | Correct | Incorrect |
| What is the town/city? | Correct | Incorrect |
| What county? | Correct | Incorrect |
| What is the post code (UK) / zip code (US) | Correct | Incorrect |
| **4. Please count backwards from 20 to 1**If patient makes an error, ask them to try again | 100% Correct on first try 100% Correct on second try | Incorrect |

|  |  |  |
| --- | --- | --- |
| **5. I am going to read you a list of 10 words. Please listen carefully and try to remember them. When I am done, tell me as many words as you can, in any order.** |  |  |
|  | Cabin | Theater |
| Ready? The words are (pause): | Pipe | Watch |
| Cabin, Pipe, Elephant, Chest, Silk, Theater, Watch, Whip, Pillow, Giant (pause). | ElephantChest | WhipPillow |
| **Now tell me all the words you can remember**. [check all Correct words] | Silk | Giant |
| The words should be read at approximately one word every 2 seconds. No repetitions of the word list are permitted. |  |  |

|  |  |  |
| --- | --- | --- |
| **6. I would like you to take the number 100 and subtract 7*. (pause for a response)*** | Correct | Incorrect |
| (93) |  |
| **Now keep subtracting 7 from the answer until I tell you to stop**No further prompts or instructions are given except to “keep going”. Stop the patient after 5 serial subtractions | Correct |  |
|  | Incorrect |
| (86) |  |
|  | Correct | Incorrect |
|  | (79) |  |
|  | Correct | Incorrect |
|  | (72) |  |
|  | Correct | Incorrect |
|  | (65) |  |
| **7. What do people usually use to cut paper?** *(pause for a response)* | Correct(Scissors or Shears) | Incorrect |
| **How many things are in a dozen?** *(pause for a response)* | Correct(12) | Incorrect |
| **What do you call the prickly green plant that lives in the desert?** *(pause for a response)* | Correct(cactus) | Incorrect |
| **What animal does wool come from?** *(pause for a response)* | Correct(lamb/sheep) | Incorrect |
| **8. Please repeat this after me:****"No ifs, ands, or buts"** *(pause for a response)* | Correct(no if**s**, and**s**, or but**s**) | Incorrect |
| **Now please repeat this after me: "Methodist****Episcopal".**no repetition of the phrases are permitted | Correct(Methodist Episcopal) | Incorrect |

|  |  |  |
| --- | --- | --- |
| **9. Who is the President of the United States right now (US)** **Who is the Queen right now (UK)?** | Correct(US - President Donald Trump // UK – Queen Elizabeth)) | Incorrect |
| **Who is the Vice President (US) // Who is the Prime minister (UK)?**Both the first and last names must be Correct. If only thelast name is given, probe for full name | Correct (US: Mike Pence // UK: Boris Johnson) | Incorrect |

|  |  |  |
| --- | --- | --- |
| **10. With your finger, tap 5 times on the part of the phone you speak into**If the TICS is administered in person, the patient should be asked to tap on the table rather than on a phone receiver | Correct (4-6 taps) | Incorrect (<3 or >7 taps) |
| **11. I’m going to say a word and I want you to give me its opposite. For example, if I said “hot”, you would way “cold.”****What is the opposite of "West"?** |  Correct(East) | Incorrect |
| **What is the opposite of "generous"?** | Correct(cheap, stingy, tight, selfish, greedy, mean, meager or other correct antonym) | Incorrect |

Scoring Instructions:

Question #1:1. pt. for first name, 1. pt. for last name.

Question #2: 1. pt. each for month, date, year, day of week, and season. If incomplete, ask specifics (e.g., "What is the month?" "What season are we in?")

Question #3: 1. pt. each for house number, street, city, state, zip. If incomplete, ask specifics (e.g., "What street are you on right now?")

Question #4: 2 pts. If completely correct on the first trial; I pt. if completely correct on second trial; 0 pts. for anything else.

Question #5: 1 pt. for each correct response. No penalty for repetitions or intrusions.

Question #6: Stop at 5 serial subtractions. 1 pt. for each correct subtraction. Do not inform the subject of incorrect responses, but allow subtractions to be made from his/her last response (e.g., "93- 85-78-71- 65" would get 3 points).

Question #7: 1 p t. for "scissor" or "shears" only. 1 pt. for “12”. 1 pt. for "cactus" only. 1 pt. for "sheep" or "lamb" only.

Question #8: 1 pt. for each complete repetition on the first trial. Repeat only if poorly presented. Question #9: 1 pt. for correct first and last name. 1 pt. for correct first and last name.

Question #10: 2 pts. If 5 taps are heard; 1 pt. if subject taps more or less than 5 times.

Question #11: 1 pt. for "east."1 pt. for "selfish," "greedy," "stingy," "tight," "cheap, “mean," "meager," "skimpy," or other good antonym.

*Neuropsychiatry, Neuropsychology, and Behavioral Neurology.* Vol. I, No. 2, pp. 111-117 © 1988 Raven Press, Ltd., New York

***Eligible participants will review the consenting page and those who agree to participate in the study will move on Phase I screening questionnaires.***

## Health Resources Use

Health Resources Use will be collected via a short, study specific questionnaire developed by the research team, asking participants to relate their symptoms to the service they used to deal with them after the cardiac arrest event. This information can help build a picture of morbidity as it can describe the conditions that are being treated by the health services. This includes: fatigue, sleep disturbances, dizziness, neurological impairment (e.g. limb weakness, sight or hear problems), dietary issues, and depression/anxiety.

*Instructions: Please, indicate (check) below which healthcare services you used after the event and the reason (related to your cardiac arrest) for accessing those facilities*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Emergency services or readmission to Hospital | General Practitioner (GP) | Nursing at GP practice | Nursing care at home | Dietician or nutritionist | Psychology or psychiatry service | Rehabilitation or physiotherapy | Private health services (please specify) |
| Fatigue |  |  |  |  |  |  |  |  |
| Sleep disturbances |  |  |  |  |  |  |  |  |
| Dizziness |  |  |  |  |  |  |  |  |
| Neurological impairment (e.g. limb weakness, sight or hear problems) please specify |  |  |  |  |  |  |  |  |
| Dietary advice |  |  |  |  |  |  |  |  |
| Depression/anxiety |  |  |  |  |  |  |  |  |
| Other – please specify |  |  |  |  |  |  |  |  |

*Hashem et al. Critical Care (2016) 20:345; Legget et al. Medicine 95(10): e2759*

## Greyson Near Death Experience (NDE):

The study will use the validated Greyson Near Death Experience Scale, which serves as a tool to quantify certain aspects of cognitive, perceptual and emotional experiences that have commonly been reported in cardiac arrest.

*Instructions: The following questions concern impressions that are sometimes reported during unconsciousness. Please* ***use video/audio recording*** *with permission. Ask the patient the following questions and check the box with the closest answer to each question.*

|  |  |
| --- | --- |
| **1. Was this interview recorded?** | [ ]  Audio[ ]  Video [ ]  No permission [ ]  Equipment not available |
| **2. Did you have the impression that everything happened faster or slower than usual? (Did time seem to speed up or slow down?)** | [ ]  0 =No [ ]  1= Everything seemed to go faster or slower than usual [ ]  2=Everything seemed to be happening at once; or time stopped or lost all meaning |
| **3. Were your thoughts speeded up?** | [ ]  0=No [ ]  1=Faster than usual[ ]  2= Incredibly fast |
| **4. Did scenes from your past come back to you?** | [ ]  0= No [ ]  1= I remember many past events[ ]  2= My past flashed before me, out of my control |
| **5. Did you suddenly seem to understand everything?** | [ ]  0= No [ ]  1= Everything about myself or others[ ]  2= Everything about the whole world |
| **6. Did you have a feeling of peace or pleasantness?** | [ ]  0=No[ ]  1=Relief or calmness[ ]  2= Incredible peace or pleasantness |
| **7. Did you have a feeling of joy?** | [ ]  0= No [ ]  1=Happiness[ ]  2= Incredible joy |
| **8. Did you feel a sense of harmony or unity with the universe?** | [ ] 0= No [ ]  1=I felt no longer in conflict with nature[ ]  2=I felt united or one with the world |
| **9. Did you see, or feel surrounded by, a brilliant light?** | [ ]  0=No [ ]  1=An unusually bright light[ ]  2=A special light conveying a super-natural feeling |
| **10. Were your senses more vivid than usual?** | [ ]  0=No [ ]  1=More vivid than usual[ ]  2=Incredibly more vivid |
| **11. Did you seem to be aware of things going on that normally should have been out of sight from your actual point of view as if by extrasensory perception?** | [ ]  0=No[ ]  1=Yes, but it was not checked out if these impressions were correct[ ]  2= Yes, and it later turned out that these impressions were correct |
| **12. Did scenes from the future come to you?** | [ ]  0=No[ ]  1=Scenes from my personal future[ ]  2=Scenes from the world’s future |
| **13. Did you feel separated from your body?** | [ ]  0=No[ ]  1=I lost awareness of my body[ ]  2=I clearly left my body and existed outside it |
| **14. Did you seem to enter some other, unearthly world?** | [ ]  0=No[ ]  1=Some unfamiliar and strange place[ ]  2=A clearly mystical or unearthly realm |
| **15. Did you seem to encounter a mystical being or presence, or hear an unidentifiable voice?** | [ ]  0=No[ ]  1=I heard a voice I could not identify[ ]  2=I encountered a definite being, or a voice clearly of mystical or unearthly origin |
| **16. Did you see deceased or religious spirits?** | [ ]  0=No[ ]  1=I sensed their presence[ ]  2=I actually saw them |
| **17. Did you come to a border or point of no return?** | [ ]  0=No[ ]  1=I came to a definite conscious decision to return to life[ ]  2=I came to a barrier that I was not permitted to cross; or was sent back against my will. |
| **18. Do you feel that these memories (including visual, auditory and emotional impressions) are still very vivid in your mind, as if it just happened yesterday?** | [ ]  0=Yes, there are still very vivid in my mind[ ]  1=They are still somewhat vivid, but I may not remember all details[ ]  2=I can hardly remember details |

**Total Score**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **19. Did you ever experience anything similar in your past, before the incidence?** | [ ]  No [ ]  Yes [ ]  Not sure / Don’t know |
| **20. If yes: describe** |  |
| **21. Did any of your relatives or close friends describe such experiences in connection to a life-threatening incidence?** | [ ]  No  [ ]  Yes [ ]  Not sure / Don’t know |
| **22. If yes: describe** |  |
| **23. Is the subject’s experience considered a NDE?** |   [ ]  Yes (Greyson NDE Scale total score is 7 or higher.) [ ]  No (Greyson NDE Scale total score is less than 7.) |

Scoring Instructions: *To calculate the score, add the values from questions 1-13.***Scoring Type of Near Death Experience** *(for research purposes,* ***a score of 7 or higher is considered a NDE****)*

*Greyson, B. (1983). The Near-Death Experience Scale: Construction, reliability, and validity.* Journal of Nervous & Mental Disease, 171, *369-375.*

## The Memory Characteristics Questionnaire (MCQ):

The Memory Characteristics Questionnaire (MCQ) version will be used to assess participants’ characteristics of memories as used by Thonnard et al. This short MCQ includes 15 items assessing sensory details, memory clarity, self-referential and emotional information, reactivation frequency and confidence in their own memory. This questionnaire will be used for *reality monitoring*, the processes by which perceived and imagined events can be discriminated and confused in memory.

*Instructions: Ask the patient the following questions and check the box with the closest answer to each question.*

|  |
| --- |
| Table 1. Modified version of Memory Characteristics Questionnaire ([10], adapted from D’argembeau & Van der Linden [26]). |
|  |
| Category | Characteristic | Modified version of Memory Characteristics Questionnaire (adapted from [26]) |
| *Sensory* | *Visual details* | My memory for this event involves visual details: 1 = none, 7 = a lot |
|  | *Other sensory details* | My memory for this event involves other sensory details (sounds, smells, and/or tastes): 1 = none, 7 = a lot |
| *Clarity* | *Feeling of re-experiencing* | While remembering the event, I feel as though I am mentally reliving it : 1 = not at all, 7 completely |
|  | *Location* | I remember the location where the event took place: 1 = not at all clear, 7 = very clearly |
|  | *Time* | I remember the time of the day when the event took place: 1 = not at all clear, 7 = very clearly |
| *Coherence* While remembering the event, it comes to me as a coherent story and not as an isolated scene: 1 = not at all, 7 = completely. |
| *Self-referential Information (SRI)* | *One’s own actions* | I remember what I did during this event: 1 = not at all, 7 = very clearly. |
|  | *One’s own words* | I remember what I said during this event: 1 = not at all, 7 = very clearly. |
|  | *One’s own thoughts* | I remember what I thought during this event: 1 = not at all, 7 = very clearly. |
| *Visual perspective* Previous studies have shown that people can report that they can visualize different memories from different points of view. Using the bellow mentioned categories, from which point of view do you see yourself? A) In your memory, you imagine the scene as an observer could see it. As an observer, you can see yourself and other aspects of the situation. B) In your memory, you imagined the scene from your own point of view (through you own eyes). You are an actor. C) Any of the above mentioned perspectives described the way you remember the situation. At which point are you observer or actor in the situation: 1 = totally observer; 7 = totally actor |
| *Emotionality* | *Valence* | When the event happened, my emotions were: 0 = very negative, 7 = very positive. |
|  | *Personal importance* | This event is important to me (it involves an important theme or episode in my life): 1 = not at all important, 7 = very important. |
|  | *Feeling emotions* | While remembering the event, I feel the emotions I felt when the event occurred: 1 = not at all,7 = completely. |
| *Reactivation* | *Reactivation frequency* | Since it occurred, I have thought or talked about this event: 1 = not at all, 7 = very often. |
| *Confidence* | *Real/imagine* | I believe the event in my memory really occurred in the way I remember it and that I have not imagined or fabricated anything that did not occur: 1 = 100% imaginary, 7 = 100% real. |
| doi:10.1371/journal.pone.0057620.t001 |

Scoring Instructions: The total score will be derived summing each item on a 1 to 7 points Likert scale.

*Thonnard M, Charland-Verville V, Bre´dart S, Dehon H, Ledoux D, et al. (2013) Characteristics of Near-Death Experiences Memories as Compared to Real and Imagined Events Memories. PLoS ONE 8(3): e57620. doi:10.1371/journal.pone.0057620*

## 12. Empathy Quotient-8 (EQ8)

A self-report measure of empathy based on a definition of empathy that includes cognition and affect.

The present study will utilize an eight-item version of the Empathy Quotient (EQ). Respondents are asked to rate on a 4- point Likert scale how much they are agree or disagree with each statement, for example: ‘*I am quick to spot when someone in a group is feeling awkward or uncomfortable’*.

*Instructions: Ask the patient the following questions and choose the closest answer to each question.*

*Please answer the following questions in relation to your life after your cardiac arrest.*

1. I find it easy to put myself in somebody else’s shoes.
2. I am good at predicting how someone will feel.
3. I am quick to spot when someone in a group is feeling awkward or uncomfortable.
4. Other people tell me I am good at understanding how they are feeling and what they are thinking.
5. I find it hard to know what to do in a social situation.
6. I often find it hard to judge if something is rude or polite.
7. It is hard for me to see why some things upset people so much.
8. Other people often say that I am insensitive, though I don’t always see why.

|  |  |  |  |
| --- | --- | --- | --- |
| Strongly Agree | Slightly Agree | Slightly Disagree | Strongly Disagree |

Scoring Instructions: The higher EQ8 scores (highest: strongly agree) indicate greater empathy.

*Loewen, Peter & Lyle, Greg & Nachshen, Jennifer. (2010). An eight-item form of the Empathy Quotient (EQ) and an application to charitable giving.*

*Please respond to the following question: This question is meant to help us understand how you may have changed over time in relation to your cardiac arrest.*

How has your level of empathy changed over time in relation to your cardiac arrest event?

1. I feel I have become much less empathetic since my cardiac arrest
2. I feel I have become moderately less empathetic since my cardiac arrest
3. I feel there is no difference in my level of empathy since my cardiac arrest
4. I feel I have become moderately more empathetic since my cardiac arrest
5. I feel I have become much more empathetic since my cardiac arrest

## 13. Benefit finding (from breast cancer study)

This is a 17-item scale, where each items relates to some potential benefit that might be derived from a specific experience. This measure has been validated in a breast cancer population.

*Instructions: Ask the patient the following questions and choose the closest answer to each question*

Having a cardiac arrest has...

1. Has led me to be more accepting of things
2. Has taught me how to adjust to things I cannot change
3. Has helped me take things as they come.
4. Brought my family closer together
5. Has made me more sensitive to family issues
6. Has taught me that everyone has a purpose in life
7. Has shown me that all people need to be loved
8. Has made me realize the importance of planning for my family’s future
9. Has made me more aware and concerned for the future of all human beings.
10. Has taught me to be patient
11. Has led me to deal better with stress and problems.
12. Has led me to meet people who have become some of my best friends
13. Has contributed to my overall emotional and spiritual growth
14. Has helped me become more aware of the love and support available from other people
15. Has helped me realize who my real friends are
16. Has helped me become more focused on priorities, with a deeper sense of purpose in life
17. Has helped me become a stronger person, more able to cope effectively with future life challenges.

Scale: **□** Not at all **□** A little **□** moderately **□** Quite a bit **□** extremely

*Urcuyo, K.R., Boyers, A.E., Carver, C.S., Antoni, M.H., (2005). Finding benefit in breast cancer: Relations with personality, coping, and concurrent well-being. Psychology and Health, 20(2), 175-192.*

## Prosocial altruistic personality scale

A 20-item instrument, designed to measure altruistic tendency by gauging the frequency one engages in altruistic acts primarily toward strangers. Respondents are required to rate the frequency with which they have engaged in some 20 specific behaviors. Participants are asked to rate on a 5-point scale ranging from Never (0) to Very Often (4). An example item is: ‘*I have offered my seat on a bus or train to a stranger who was standing*.’

Using the following scale, please select the category that conforms to the frequency with which you have carried out the following acts in relation to your life AFTER your cardiac arrest.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1** | **2** | **3** | **4** | **5** |
| **Never** | **Once** | **More than once** | **Often** | **Very Often** |

1.) I have helped push a stranger's car that was broken down or out of gas.

2.) I have given directions to a stranger.

3.) I have made change for a stranger.

4.) I have given money to a charity.

5.) I have given money to a stranger who needed it (or asked me for it).

6.) I have donated goods or clothes to a charity.

7.) I have done volunteer work for a charity.

8.) I have donated blood.

9.) I have helped carry a stranger's belongings (books, parcels, etc).

10.) I have delayed an elevator and held the door open for a stranger.

11.) I have allowed someone to go ahead of me in a lineup (in the supermarket, at a copy machine, at a fast-food restaurant).

12.) I have given a stranger a lift in my car.

13.) l have pointed out a clerk's error (in a bank, at the supermarket) in undercharging me for an item.

14.) I have let a neighbor whom I didn't know too well borrow an item of some value to me (eg, a dish, tools, etc).

15.) I have bought 'charity' holiday cards deliberately because I knew it was a good cause.

16.) I have helped a classmate who I did not know that well with an assignment when my knowledge was greater than his or hers.

17.) I have, before being asked, voluntarily looked after a neighbor's pets or children without being paid for it.

18.) I have offered to help a handicapped or elderly stranger across a street.

19.) I have offered my seat on a bus or train to a stranger who was standing.

20.) I have helped an acquaintance to move households.

# Scoring: Score scale as a continuous measure.

*Rushton, J. P., Chrisjohn, R.D., & Fekken, G. C. (1981). The altruistic personality and the self-report altruism sale. Personality and Individual Differences, 1, 292- 302.*

*Please respond to the following question: This question is meant to help us understand how you may have changed over time in relation to your cardiac arrest.*

How has your level of altruism changed over time in relation to your cardiac arrest event?

1. I feel that I have become much less altruistic since my cardiac arrest
2. I that I have become moderately less altruistic since my cardiac arrest
3. I feel there is no difference in my level of altruism since my cardiac arrest
4. I feel that I have become moderately more altruistic since my cardiac arrest
5. I feel that I have become much more altruistic since my cardiac arrest

## Brief compassion scale

This validated measure requires individuals to report agreement with 26 items using a 5-point Likert response scale that assess three aspects of self-compassion—self-kindness, thoughts of common humanity, mindful acceptance, and their inverses. An example questionnaire item is: ‘*I tend to feel compassion for people, even though I do not know them*.’

*Instructions: Please answer the following questions in relation to your life AFTER your cardiac arrest honestly and quickly using the scale below:*

1 2 3 4 5 6 7

Not at all true of me very true of me

 1. When I hear about someone (a stranger) going through a difficult time, I feel a great deal of compassion for him or her.

 2. I tend to feel compassion for people, even though I do not know them.

 3. One of the activities that provide me with the most meaning to my life is helping others in the world when they need help.

 4. I would rather engage in actions that help others, even though they are strangers, than engage in actions that would help me.

 5. I often have tender feelings toward people (strangers) when they seem to be in need.

*Hwang, J. Y., Plante, T., & Lackey, K. (2008). The development of the Santa Clara brief compassion scale: An abbreviation of sprecher and fehr’s compassionate love scale. Pastoral Psychology, 56, 421–428*

*Please respond to the following question: This question is meant to help us understand how you may have changed over time in relation to your cardiac arrest.*

How has your level of compassion changed over time in relation to your cardiac arrest event?

1. I feel I have become much less compassionate since my cardiac arrest
2. I feel I have become moderately less compassionate since my cardiac arrest
3. I feel there is no difference in my level of compassion since my cardiac arrest
4. I feel I have become moderately more compassionate since my cardiac arrest
5. I feel I have become much more compassionate since my cardiac arrest

## Subjective Happiness scale

The Subjective Happiness scale is a validated 4-item scale of global subjective happiness. Two items ask respondents to characterize themselves using both absolute ratings and ratings relative to peers, whereas the other two items offer brief descriptions of happy and unhappy individuals and ask respondents the extent to which each characterization describes them.

For each of the following statements and/or questions, please circle the point on the scale that you feel is most appropriate in describing *your life AFTER your cardiac arrest:*

1. In general, I consider myself:

1 2 3 4 5 6 7

Not a very A very

happy person happy person

1. Compared to most of my peers, I consider myself:

1 2 3 4 5 6 7

less more

happy happy

1. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?

1 2 3 4 5 6 7

not at a great

all deal

1. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?

1 2 3 4 5 6 7

not at a great

all deal

Note: Item #4 is reverse coded.

*Lyubomirsky, S., & Lepper, H. (1999).* [*A measure of subjective happiness: Preliminary reliability and construct validation.*](http://sonjalyubomirsky.com/wp-content/themes/sonjalyubomirsky/papers/LL1999.pdf) Social Indicators Research, 46, *137-155. The original publication is available at* [*www.springerlink.com.*](http://www.springerlink.com/)

*Please respond to the following question: This question is meant to help us understand how you may have changed over time in relation to your cardiac arrest.*

How has your level of happiness changed over time in relation to your cardiac arrest event?

1. I feel I have become much less happy since my cardiac arrest
2. I feel I have become moderately less happy since my cardiac arrest
3. I feel there is no difference in my level of happiness since my cardiac arrest
4. I feel I have become moderately more happy since my cardiac arrest
5. I feel I have become much more happy since my cardiac arrest

## 17. Gratitude Questionnaire (GQ6)

A six-item self-report questionnaire designed to assess individual differences in the proneness to experience gratitude in daily life. Respondents endorse each item on a 7-point Likert-type scale. An example item is: ‘*I have so much in my life to be thankful for*.’ This scale has been validated in many languages.

*Instructions: Using the scale below as a guide, choose a choice beside each statement to indicate how much you agree with it. Please respond to the following statements in relation to your life AFTER your cardiac arrest:*

1 = strongly disagree

2 = disagree

3 = slightly disagree

4 = neutral

5 = slightly agree

6 = agree

7 = strongly agree

 1. I have so much in life to be thankful for.

 2. If I had to list everything that I felt grateful for, it would be a very long list.

 3. When I look at the world, I don’t see much to be grateful for.\*

 4. I am grateful to a wide variety of people.

 5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.

 6. Long amounts of time can go by before I feel grateful to something or someone.\*

\*Items 3 and 6 are reverse-scored.

Scoring Instructions:

1. Add up your scores for items 1, 2, 4, and 5.
2. Reverse your scores for items 3 and 6. That is, if you scored a "7," give yourself a "1," if you scored a "6," give yourself a "2," etc.
3. Add the reversed scores for items 3 and 6 to the total from Step 1. This is your total GQ-6 score. This number should be between 6 and 42.

*McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. Journal of Personality and Social Psychology, 82, 112-127.*

*Please respond to the following question: This question is meant to help us understand how you may have changed over time in relation to your cardiac arrest.*

How has your level of gratitude changed over time in relation to your cardiac arrest event?

1. I feel I have become much less grateful since my cardiac arrest
2. I feel I have become moderately less grateful since my cardiac arrest
3. I feel there is no difference in my level of gratitude since my cardiac arrest
4. I feel I have become moderately more grateful since my cardiac arrest
5. I feel I have become much more grateful since my cardiac arrest

## Secure Flourish Index

The Secure Flourish Index (SFI) is a measure of flourishing, which is the extent to which all aspects of a person’s life are good. This is assessed through questions about 6 domains, with possible scores ranging from 0 to 10. The domains included are: happiness and life satisfaction, mental and physical health, meaning and purpose, character and virtue, close social relationships, and financial and material stability.

*Please answer the following questions in relation to your life after your cardiac arrest:*

|  |  |
| --- | --- |
| Domain | Statement/Question |
| D1. Happiness and Life Satisfaction | D1.1 Overall, how satisfied are you with life as a whole these days?*0=Not Satisfied at All, 10=Completely Satisfied* |
| D1. Happiness and LifeSatisfaction | D1.2 In general, how happy or unhappy do you usually feel?*0=Extreme Unhappy, 10=Extremely Happy* |
| D2. Mental and Physical Health | D2.1 In general, how would you rate your physical health?*0=Poor, 10=Excellent* |
| D2. Mental and Physical Health | D2.2 How would you rate your overall mental health?*0=Poor, 10=Excellent* |
| D3. Meaning and Purpose | D3.1 Overall, to what extent do you feel the things you do in your life are worthwhile?*0=Not at All Worthwhile, 10=Completely Worthwhile* |
| D3. Meaning and Purpose | D3.4 I understand my purpose in life*0=Strongly Disagree, 10=Strongly Agree* |
| D4. Character and Virtue | D4.1 I always act to promote good in all circumstances, even in difficult and challenging situations*0=Not True of Me, 10=Completely True of Me* |
| D5. Close SocialRelationships | D5.1 I am content with my friendships and relationships |
| D5. Close SocialRelationships | D5.2 My relationships are as satisfying as I would want them to be*0=Strongly Disagree, 10=Strongly Agree* |
| D6. Financial and Material Stability | D6.1 How often do you worry about being able to meet normal monthly living expenses?*0=Worry All the Time, 10=Do Not Ever Worry,* |
| D6. Financial and MaterialStability | D6.2 How often do you worry about safety, food, or housing?*0=Worry All the Time, 10=Do Not Ever* |

*Instructions: Please choose the best answer ranging from 0 to 10.*

Scoring Instructions: High scores indicate positive perception in terms of human flourishing.

*Weziak-Bialowolska, D., McNeely, E., & VanderWeele, T. J. (2017). Flourish index and secure flourish index. SSRN Electronic Journal. doi:10.2139/ssrn.3145336*

*Please respond to the following question: This question is meant to help us understand how you may have changed over time in relation to your cardiac arrest.*

How has your level of positivity changed over time in relation to your cardiac arrest event?

1. I feel I have become much less positive since my cardiac arrest
2. I feel I have become moderately less positive since my cardiac arrest
3. I feel there is no difference in my level of positivity since my cardiac arrest
4. I feel I have become moderately more positive since my cardiac arrest
5. I feel I have become much more positive since my cardiac arrest

## Short Daily Spiritual Experiences Scale

This is a self-report scale which measures the daily frequency in which one connects with the transcendent, their inner harmony, and their tendency to care towards others. The scale has 8 items, and an example item is: *‘I feel a selfless caring for others*.’ Respondents are asked to rate the frequency in which they have felt these items on a 7 point Likert scale, with answers range from Many Times a Day to Never.

*Instructions: The list that follows includes items you may or may not experience. Please consider how often you directly have this experience in relation to your life AFTER your cardiac arrest, and try to disregard whether you feel you should or should not have these experiences. A number of items use the word ‘God.’ If this word is not a comfortable one for you, please substitute another word that calls to mind the divine or holy for you.*

Please use the following scale:

5=Many times a day // 4=Every day // 3=Most days // 2=Some days // 1=Once in a while // 0=Never or almost never

1. I feel God’s presence
2. I find strength and comfort in my religion or spirituality
3. I feel deep inner peace or harmony
4. I feel God’s love for me, through others
5. I am spiritually touched by the beauty of creation
6. I desire to be closer to God or in union with the divine
7. I accept others even when they do things I think are wrong
8. I feel a selfless caring for others

*Underwood, L. G. & Teresi, J. (2002). The Daily Spiritual Experience Scale: Development, theoretical description, reliability, exploratory factor analysis, and preliminary construct validity using health related data. Annals of Behavioral Medicine, 24, 22-33.*

*Please respond to the following question: This question is meant to help us understand how you may have changed over time in relation to your cardiac arrest.*

How has your level of spirituality changed over time in relation to your cardiac arrest event?

1. I feel I have become much less spiritual since my cardiac arrest
2. I feel I have become moderately less spiritual since my cardiac arrest
3. I feel there is no difference in my level of spirituality since my cardiac arrest
4. I feel I have become moderately more spiritual since my cardiac arrest
5. I feel I have become much more spiritual since my cardiac arrest

## Trait Forgiveness Scale

This questionnaire includes 10 statements surrounding forgiveness. Participants are asked to self-report how strongly they disagree with each statement or agree on a 5 point scale. An example item is: ‘*People close to me probably think I hold a grudge too long*.’

Instructions: Indicate the degree to which you agree or disagree with each statement below by using the following scale: *Please respond to the following statements in relation to your life after your cardiac arrest:*

1=strongly disagree 27=mildly disagree 37=agree and disagree equally 4=mildly agree 5=strongly agree

1. People close to me probably think I hold a grudge too long.
2. I can forgive a friend for almost anything.
3. If someone treats me badly, I treat him or her the same.
4. I try to forgive others even when they don’t feel guilty for what they did.
5. I can usually forgive and forget an insult.
6. I feel bitter about many of my relationships.
7. Even after I forgive someone, things often come back to me that I resent.
8. There are some things for which I could never forgive even a loved one.
9. I have always forgiven those who have hurt me.
10. I am a forgiving person.

*Scoring Instructions:*

To score the TFS such that higher scores reflect higher trait forgivingness, first reverse score items 1, 3, 6, 7, and 8. After items are reverse scored, add the 10 items to get the total score.

*Berry, J. W., Worthington, E. L., Parrott, L., O'Connor, L. E., & Wade, N. G. ( 2001). Dispositional forgivingness: Development and construct validity of the Transgression Narrative Test of Forgivingness (TNTF). Personality and Social Psychology Bulletin,* ***27****, 1277– 1290.*

*Please respond to the following question: This question is meant to help us understand how you may have changed over time in relation to your cardiac arrest.*

How has your level of forgiveness changed over time in relation to your cardiac arrest event?

1. I feel I have become much less forgiving since my cardiac arrest
2. I feel I have become moderately less forgiving since my cardiac arrest
3. I feel there is no difference in my level of forgiveness since my cardiac arrest
4. I feel I have become moderately more forgiving since my cardiac arrest
5. I feel I have become much more forgiving since my cardiac arrest

## 21. Social Desirability Scale – Short Form

This 13-item scale is used to assess the extent to which an individual is generally concerned with social approval. The format of the responses is ‘true / false’, and an example question is: *‘I sometimes try to get even, rather than forgive and forget.’*

*Instructions: Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to your life AFTER your cardiac arrest.*

1. It is sometimes hard for me to go on with my work if I am not encouraged.
	1. True
	2. False
2. I sometimes feel resentful when I don’t get my own way
	1. True
	2. False
3. On a few occasions, I have given up doing something because I thought too little of my ability
	1. True
	2. False
4. There have been times when I felt like rebelling against people in authority even thought I knew they were right.
	1. True
	2. False
5. No matter who I’m talking to, I’m always a good listener
	1. True
	2. False
6. There have been occasions when I took advantage of someone.
	1. True
	2. False
7. I’m always willing to admit it when I make a mistake.
	1. True
	2. False
8. I sometimes try to get even, rather than forgive and forgot.
	1. True
	2. False
9. I’m always courteous, even to people who are disagreeable.
	1. True
	2. False
10. I have never been irked when people expressed ideas very different from my own.
	1. True
	2. False
11. There have been times when I was quite jealous of the good fortune of others.
	1. True
	2. False
12. I am sometimes irritated by people who ask favors of me.
	1. True
	2. False
13. I have never deliberately said something that hurt someone’s feelings.
	1. True
	2. False

Scoring Instructions: A high score may imply that the individual’s self-reporting style may be skewed by a social desirability bias, as they may tend to conform to social conventions. A low score may indicate a higher likelihood that the participant is willing to answer questions in a way that accurately reflects themselves.

*D. P. Crowne and D. A. Marlowe, A new scale of social desirability independent of pathology, Journal of Consulting Psychology 24 (1960): 351. Copyright 1960 by the American Psychological Association. Reprinted by permission.*

*Please respond to the following question: This question is meant to help us understand how you may have changed over time in relation to your cardiac arrest.*

How has your level of consideration of others needs and opinions changed over time in relation to your cardiac arrest event?

1. I feel I have become much less considerate of others needs and opinions since my cardiac arrest
2. I feel I have become moderately less considerate of others needs and opinions since my cardiac arrest
3. I feel there is no difference in my level of consideration of others needs and opinions since my cardiac arrest
4. I feel I have become moderately more considerate of others needs and opinions since my cardiac arrest
5. I feel I have become much more considerate of others needs and opinions since my cardiac arrest

## 22. Posttraumatic Growth Inventory – Short Form

This includes 10 items measuring 5 factors which are part of posttraumatic growth. The five factors are: relating to others, new possibilities, personal strength, spiritual change, and appreciation of life. An example item is: *‘I changed my priorities about what is important in life.’*

*Instructions: Choose the best answer for each statement. Use the following six- point scale: Please respond to the following statements in relation to your life after your cardiac arrest.*

0 =I did not experience this change as a result of my crisis.

1=I experienced this change to a very small degree as a result of my crisis.

2 =I experienced this change to a small degree as a result of my crisis.

3=I experienced this change to a moderate degree as a result of my crisis.

4 =I experienced this change to a great degree as a result of my crisis.

5 =I experienced this change to a very great degree as a result of my crisis.

|  |
| --- |
| 1. I changed my priorities about what is important in life.  |
| 2. I have a greater appreciation for the value of my own life.  |
| 3. I am able to do better things with my life.  |
| 4. I have a better understanding of spiritual matters.  |
| 5. I have a greater sense of closeness with others. \_  |
| 6. I established a new path for my life.  |
| 7. I know better that I can handle difficulties.  |
| 8. I have a stronger religious faith.  |
| 9. I discovered that I’m stronger than I thought I was.  |
| 10. I learned a great deal about how wonderful people are.  |

*Arnie Cann , Lawrence G. Calhoun , Richard G. Tedeschi , KanakoTaku , Tanya Vishnevsky , Kelli N. Triplett & Suzanne C. Danhauer (2010) A short form of the Posttraumatic Growth Inventory, Anxiety, Stress, & Coping, 23:2, 127-137, DOI:10.1080/10615800903094273*

## 23. Life Orientation Test – Revised (LOT-R)

This includes 10 items designed to assess optimism in daily life. Respondents endorse each item on a 5-point Likert-type scale. An example item is: *‘*In uncertain times, I usually expect the best.’

Please be as honest and accurate as you can throughout. Try not to let your response to one statement influence your responses to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer. *Please respond to the following statements in relation to your life after your cardiac arrest:*

A = I agree a lot

B = I agree a little

C = I neither agree nor disagree

D = I disagree a little

E = I disagree a lot

1. In uncertain times, I usually expect the best.
2. It's easy for me to relax.
3. If something can go wrong for me, it will. (R)
4. I'm always optimistic about my future.
5. I enjoy my friends a lot.
6. It's important for me to keep busy.
7. I hardly ever expect things to go my way. (R)
8. I don't get upset too easily.
9. I rarely count on good things happening to me. (R)
10. Overall, I expect more good things to happen to me than bad.

**Scoring:**

Items 3, 7, and 9 are reverse scored (or scored separately as a pessimism measure). Items 2, 5, 6, and 8 are fillers and should not be scored. Scoring is kept continuous – there is no benchmark for being an optimist/pessimist.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A re-evaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 67, 1063-1078.

*Please respond to the following question: This question is meant to help us understand how you may have changed over time in relation to your cardiac arrest.*

How has your level of optimism changed over time in relation to your cardiac arrest event?

1. I feel I have become much less optimistic since my cardiac arrest
2. I feel I have become moderately less optimistic since my cardiac arrest
3. I feel there is no difference in my level of optimism since my cardiac arrest
4. I feel I have become moderately more optimistic since my cardiac arrest
5. I feel I have become much more optimistic since my cardiac arrest