# Ethically Un-ethical

## A discussion about CPR

Dr. James East

Supervisor
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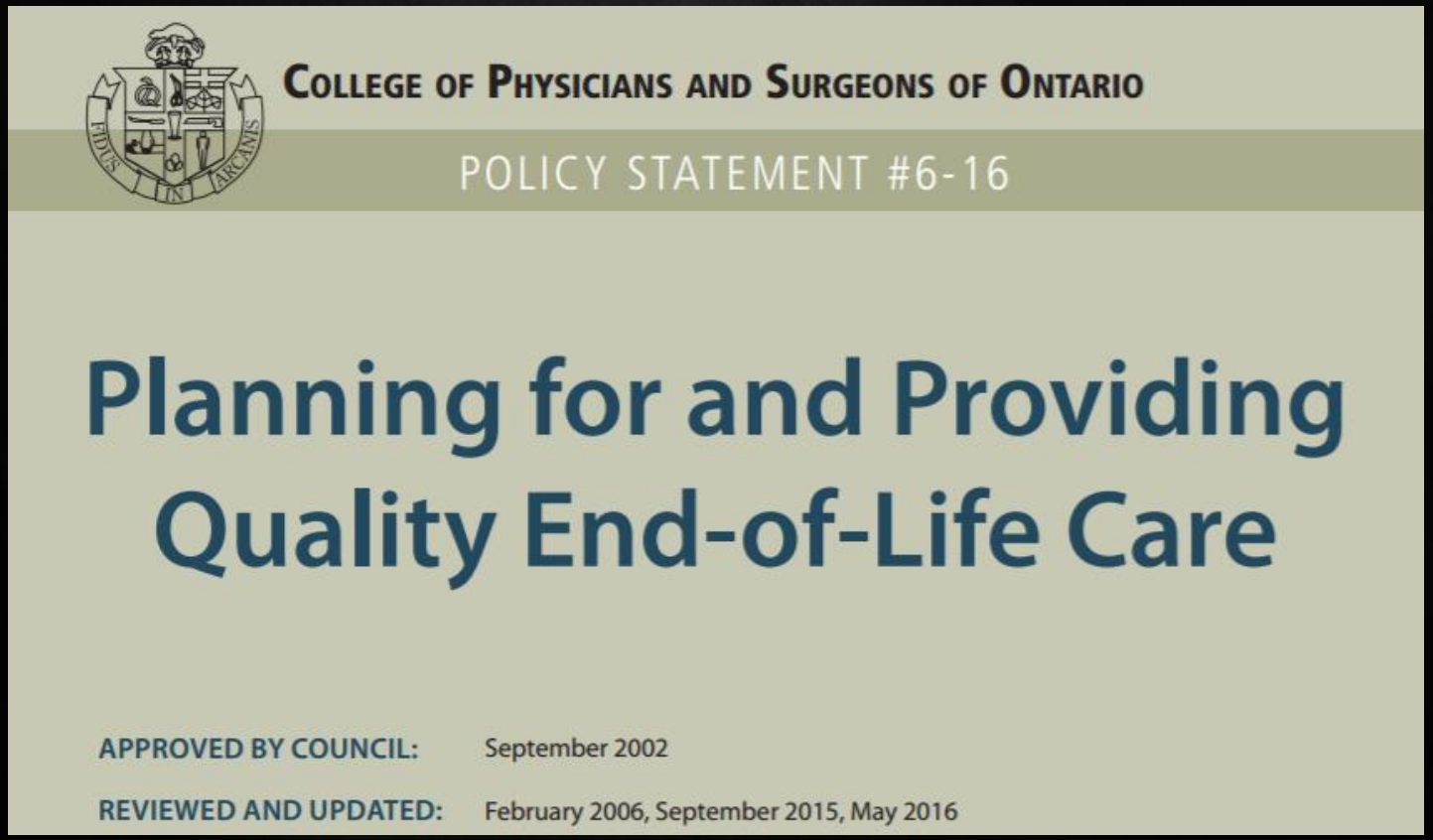
“Dark times lie ahead. Soon we must all face choice between what is right and what is easy"

# Disclosure

None

# CPSO "Definitions"



College of Physicians and Surgeons of Ontario

POLICY STATEMENT #6-16

## Planning for and Providing Quality End-of-Life Care

APPROVED BY COUNCIL: September 2002

REVIEWED AND UPDATED: February 2006, September 2015, May 2016

# CPSO Policy on CPR

If the patient or substitute decision-maker disagrees and insists that CPR be provided, physicians must engage in the conflict resolution process as outlined in Section 8 of this policy.[44] Physicians must allow the patient or substitute decision-maker a reasonable[45] amount of time to disagree before a no-CPR order can be written.

While the conflict resolution process is underway, physicians may not write a no-CPR order. If an event requiring CPR occurs, physicians must provide CPR unless the patient's condition will prevent the intended physiologic goals of CPR (i.e., providing oxygenated blood flow to the heart and brain) from being achieved. In determining whether or not CPR must be provided, physicians must act in good faith. As well, in those instances where CPR must be provided, physicians must act in good faith and use their professional judgment to determine how long to continue providing CPR.

# CPSO "Definitions"

The law is currently unclear regarding the consent requirements for a no-CPR order.[42]

# I fought the law, and the law….

11. (1) The following are the elements required for consent to treatment:
    1. The consent must relate to the treatment.
    2. The consent must be informed.
    3. The consent must be given voluntarily.
    4. The consent must not be obtained through misrepresentation or fraud. 1996, c. 2, Sched. A, s. 11 (1).

# Health Care Consent Act

**Informed consent**

"A consent to treatment is informed if, before giving it, the person received the information about the matters set out in subsection (3) that a reasonable person in the same circumstances would require in order to make a decision about the treatment"

(3) The matters referred to in subsection (2) are:

1. The nature of the treatment.
2. The expected benefits of the treatment.
3. The material risks of the treatment.
4. The material side effects of the treatment.
5. Alternative courses of action.
6. The likely consequences of not having the treatment. 1996, c. 2, Sched. A, s. 11 (3).

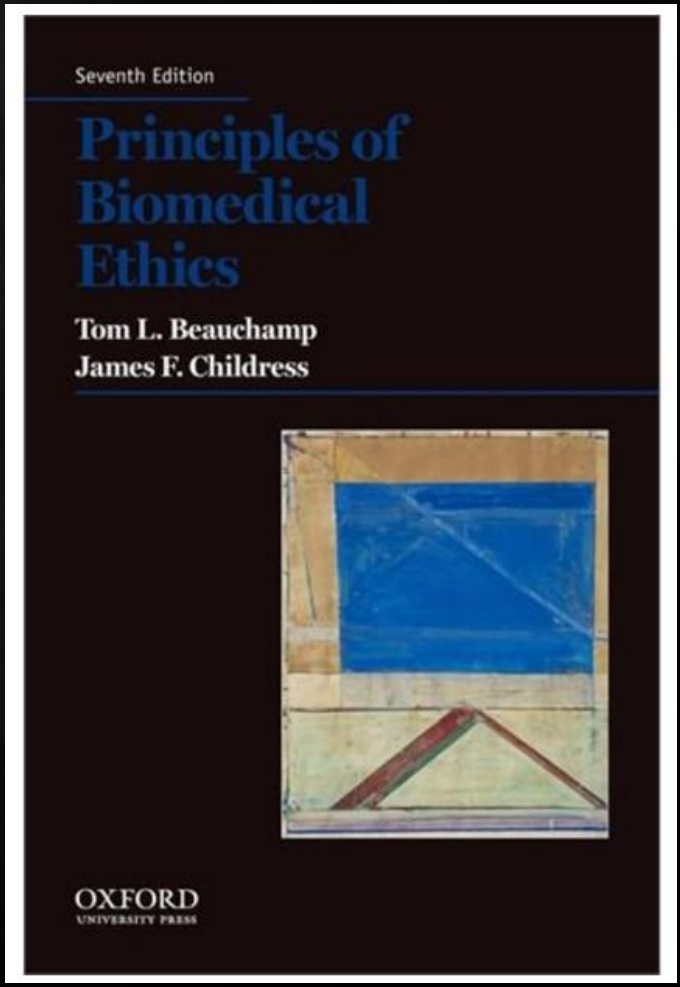
# Ok … let's consent!

**Seven Elements of Informed consent:**

Threshold elements (preconditions)
Competence (to understand and decide)
Voluntariness (in deciding)

Information elements
Disclosure (of material information)
Recommendation (of a plan)
Understanding (of above 2)

Consent elements
Decision (in favor of a plan)
Authorization (of the chosen plan)



# Disclosure

Beauchamp & Childress:

- The facts or descriptions that patients or subjects consider material when deciding whether to refuse or consent to a proposed intervention or involvement in research
- Information the professional believes to be material
- The professional's recommendation (if any)
- The purpose of seeking consent
- The nature and limits of consent as an act of authorization

# So how much is enough?

**The professional practice standard**

"A professional community's customary practices determine adequate disclosure"

"Diagnoses, prognosis, the nature and purpose of the intervention, alternatives, risks and benefits, and the consequences of not receiving any treatment, and recommendations typically are essential"

This must be in the context of the patient as a person and as someone with an illness

# Ok … let's consent!

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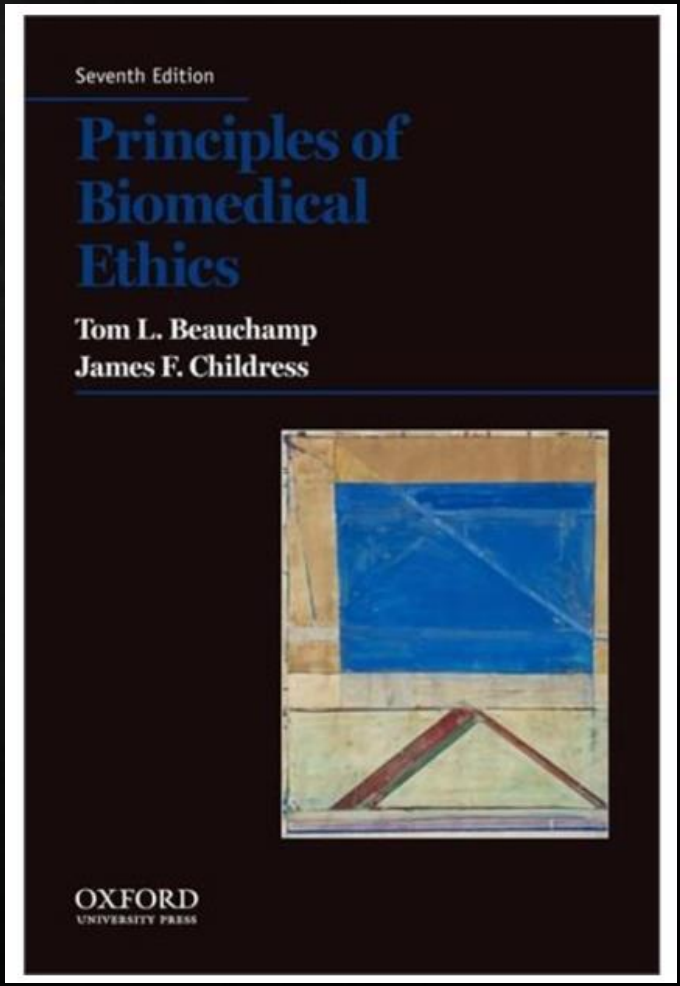

# Do we understand?

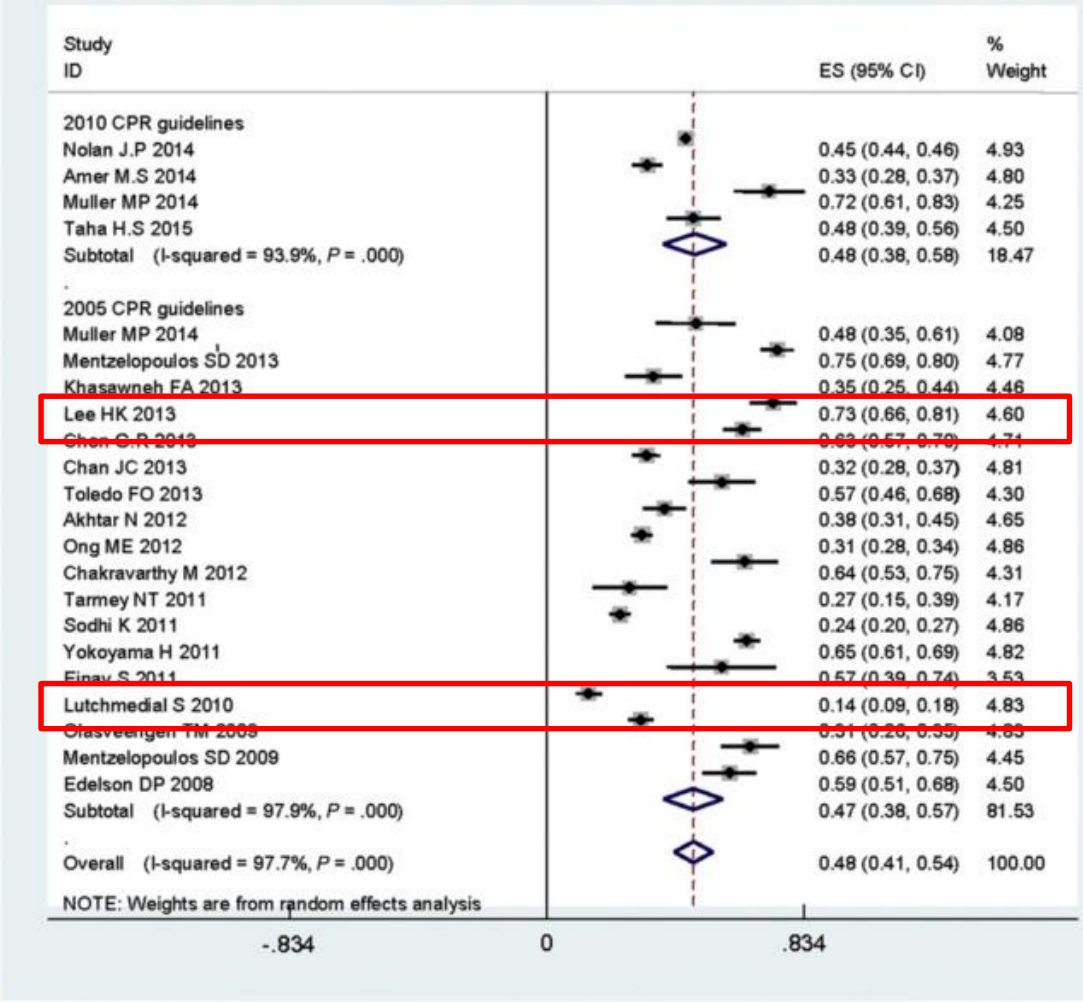


**Fig. 2.** Forest plot of studies reporting ROSC after CPR.

(Zhu and Zhang 2016)

# Do we understand?

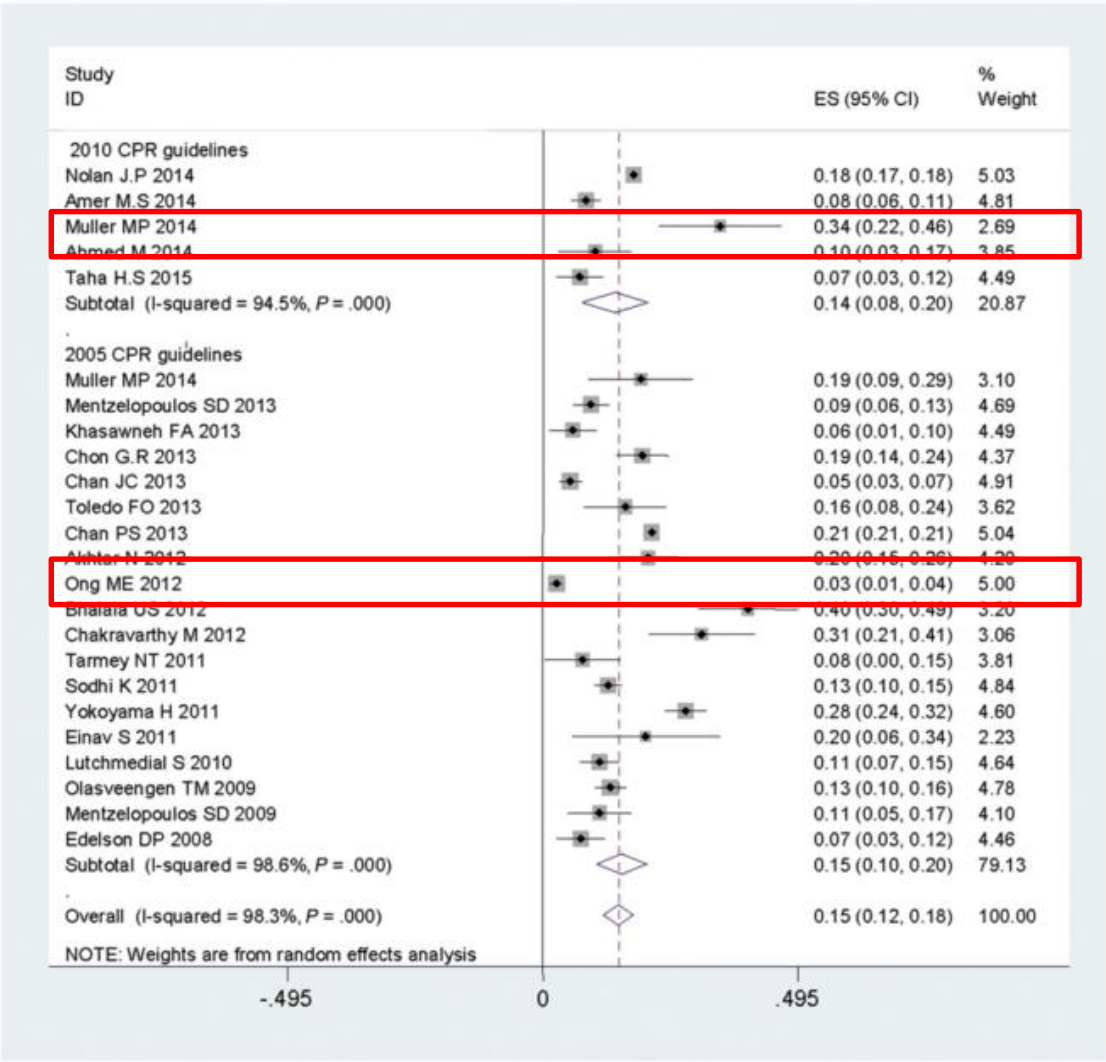


**Fig. 4.** Forest plot of studies reporting survival to hospital discharge after CPR.

(Zhu and Zhang 2016)

# Do we understand?

**Table 5**
First documented rhythm and outcome for 23,554 adult in-hospital cardiac arrests.

| First documented rhythm | All rhythms[a] | VF/VT | PEA | Asystole |
|---|---|---|---|---|
| Number (%) | 23,554(100) | 3982(16.9) | 11,455(48.6) | 5563(23.6) |
| ROSC > 20 minutes, *n* (%) | 10,607(45.0) | 3029(76.1) | 4688(40.9) | 1460(26.2) |
| Survival to hospital discharge[b], *n* (%) | 4153(18.4) | 1727(49.0) | 1265(11.4) | 470(8.7) |
| CPC 1 or 2[c], *n* (%) | 3759(97.5) | 1682(99.1) | 1114(95.6) | 418(96.7) |

[a] All rhythms includes VF/VT, PEA, Asystole as well as 101 non-shockable bradycardia, 491 non-shockable unknown rhythm, 139 shockable unknown rhythm, 288 never determined and 1535 unknown.
[b] Excluding 926 revisits by the resuscitation team for repeat cardiac arrests and 98 with missing outcome.
[c] Shown as a percentage of 3857 survivors at hospital discharge where CPC could be assessed.

(Zhu and Zhang 2016)

# Do we understand?

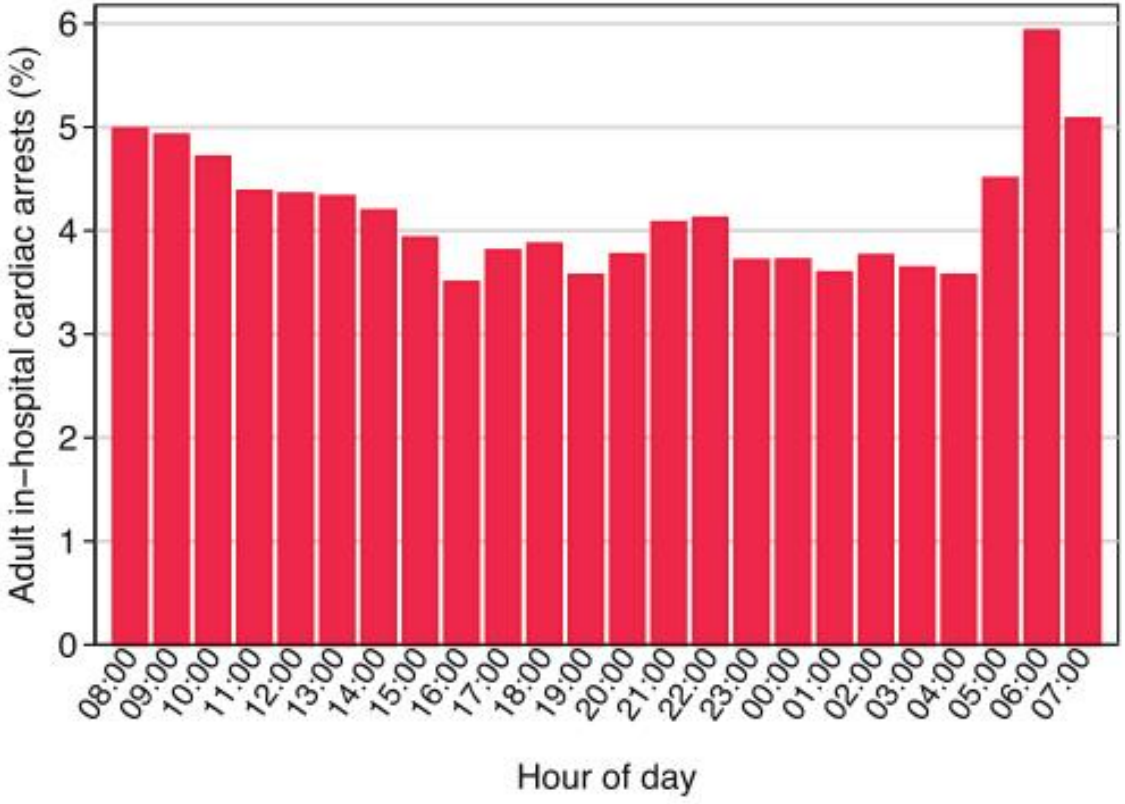


**Fig. 3.** Hour of the day of adult in-hospital cardiac arrests.

(Nolan, Soar et al. 2014)

# Do we understand?

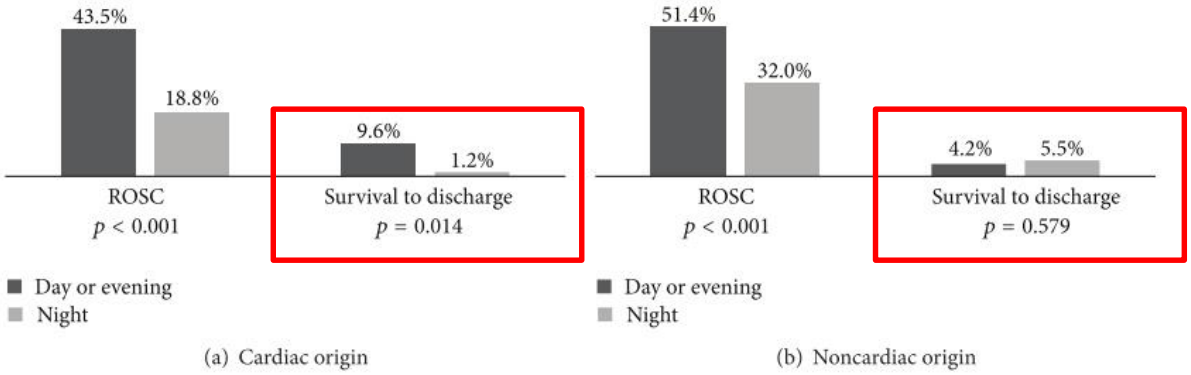


FIGURE 3: Percentage of ROSC and survival to discharge of the event per shift: (a) cardiac origin in-hospital cardiac arrest and (b) noncardiac origin in-hospital cardiac arrest.

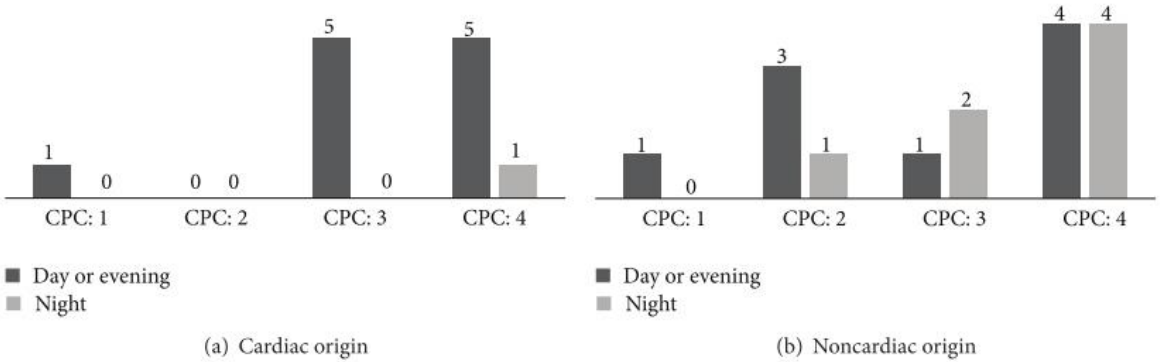


FIGURE 4: The distribution of patients with survival to discharge in the Cerebral Performance Category score: 1 for good cerebral performance, 2 for moderate performance, 3 for poor performance, and 4 for comatose or vegetative status.

(Syue, Huang et al. 2016)

# Do we understand?

**Table 1**
Characteristics of 174 patients suffering an in-hospital cardiac arrest during 2014 in Karolinska University Hospital.

| | Patients surviving at least 30 days Number (%) 41 (100) | Patients deceased Number (%) 133 (100) | *p*-Value |
|---|---|---|---|
| Gender | | | 0.34 |
| Male | 21 (51) | 80 (60) | |
| Female | 20 (49) | 53 (40) | |
| Age category | | | <0.01 |
| 18–49 | 7 (17) | 6 (5) | |
| 50–59 | 9 (22) | 13 (10) | |
| 60–69 | 12 (29) | 20 (15) | |
| 70–79 | 12 (29) | 55 (41) | |
| 80–89 | 1 (2) | 34 (26) | |
| >90 | 0 (0) | 5 (4) | |
| Place of cardiac arrest | | | <0.01 |
| Emergency department | 7 (17) | 9 (7) | |
| Patient ward | 4 (10) | 52 (39) | |
| Intermediate care unit | 15 (37) | 38 (29) | |
| Intensive care unit | 2 (5) | 19 (14) | |
| Angio lab./operation | 12 (29) | 6 (5) | |
| Others incl. X-ray department | 1 (2) | 9 (7) | |
| Witnessed | | | |
| Yes | 38 (93) | 100 (75) | 0.02 |
| No | 3 (7) | 33 (25) | |
| ECG surveillance | | | |
| Yes | 28 (68) | 63 (47) | 0.04 |
| Missing | 2 (5) | 4 (3) | |
| Initial rhythm | | | |
| VT/VF | 20 (50) | 21 (16) | <0.01 |
| PEA/asystoli | 20 (50) | 109 (83) | |
| Missing | 1 (2) | 4 (3) | |

(Piscator, Hedberg et al. 2016)

# Do we understand?

**Table 3.** Event Rate (Number of Events Per Year Per 1000 Inpatient Bed-Days) and Survival Rates (Percent of Survivals Among Arrest Events Per Year Per Location)

| | Total | ICU | Monitored Ward | Unmonitored Ward | *P*-Value* |
|---|---|---|---|---|---|
| No. of hospitals | 445 | 445 | 445 | 445 | |
| Unadjusted event rate, mean (SD) | 0.580 (0.325) | 0.337 (0.215) | 0.109 (0.079) | 0.134 (0.098) | <0.0001 |
| Unadjusted survival rate, mean (SD) | 0.173 (0.079) | 0.162 (0.096) | 0.231 (0.171) | 0.141 (0.122) | <0.0001 |
| Adjusted survival rate, mean (SD) | 0.144 (0.032) | 0.140 (0.037) | 0.193 (0.074) | 0.106 (0.037) | <0.0001 |

ICU indicates intensive care unit.
**P*-value obtained via ANOVA.

(Perman, Stanton et al. 2016)

Table 3. Clinical Outcomes of Subjects With Witnessed and Non-Witnessed In-Hospital Cardiac Arrest

| | Witnessed $n = 203$ | Non-witnessed $n = 35$ | Total $n = 238$ | $P$ |
|---|---|---|---|---|
| Return of spontaneous circulation achieved | 134 (66) | 17 (48.6) | 151 (63.4) | .048 |
| Survival to hospital discharge | 44 (21.7) | 2 (5.7) | 46 (19.3) | .03 |

Values are number (%).

Table 4. Prognostic Factors Associated With the Return of Spontaneous Circulation: Multivariate Logistic Regression Model*

| | Odds Ratio (95% CI) | $P$ |
|---|---|---|
| Medical illness | 0.333 (0.118–0.934) | .04 |
| Preexisting metastatic cancer | 0.189 (0.073–0.492) | .001 |
| Initial recorded rhythm non-ventricular tachycardia/ventricular fibrillation | 0.219 (0.049–0.979) | .047 |
| Intubation | 3.888 (1.507–10.032) | .005 |
| Duration of cardiopulmonary resuscitation, min | | < .001 |
| 0–15 | 1.0 | |
| 15–35 | 0.194 (0.076–0.495) | |
| > 35 | 0.009 (0.002–0.036) | |

Table 5. Prognostic Factors Associated With Hospital Mortality: Multivariate Logistic Regression Model*

| | Odds Ratio (95% CI) | $P$ |
|---|---|---|
| Nighttime onset (7:00 AM to 11:00 PM) | 6.311 (1.449–27.473) | .01 |
| Medical illness | 4.712 (1.753–12.668) | .002 |
| Preexisting metastatic cancer | 7.424 (1.221–45.159) | .003 |
| Witnessed case | 0.138 (0.021–0.909) | .04 |
| Monitored case | 3.604 (1.301–9.988) | .01 |
| Intubation | 2.769 (1.061–7.223) | .04 |
| Duration of cardiopulmonary resuscitation, min | | .007 |
| 0–15 | 1.0 | |
| 15–35 | 2.579 (0.765–8.698) | |
| > 35 | 13.01 (1.703–99.366) | |

* Variables included in the logistic regression model: time of onset, age, illness (medical/surgical), malignancy as underlying disease, chronic liver disease as underlying disease, chronic kidney disease as underlying disease, preexisting malignancy, preexisting metastatic cancer, witnessed case, monitored case, initial recorded rhythm (ventricular tachycardia/ventricular fibrillation vs non-ventricular tachycardia/ventricular fibrillation), defibrillation, intubation, vascular access, vasoactive infusion, time until arrival of Medical Emergency Team, immediate cause (cardiac/non-cardiac), preventable case, and duration of cardiopulmonary resuscitation.

(Chon, Lee et al. 2013)

# Do we understand?

| Predictors of Mortality | Univariate HR (95% CI) | *p* Value | Multivariate HR (95% CI) | *p* Value |
|---|---|---|---|---|
| Underlying disease | | | | |
| Solid tumor | 0.6 (0.4–0.8) | .001 | — | — |
| Leukemia | 1.0 (0.8–1.4) | .8 | 1.0 (0.7–1.4) | .95 |
| Lymphoid neoplasm | 1.6 (1.2–2.2) | .006 | 1.4 (0.9–1.9) | .09 |
| BMT | 1.5 (1.0–2.2) | .09 | 1.3 (0.8–2.1) | .4 |
| Cause of ICU admission | | | | |
| Postoperative care | 0.2 (0.1–0.4) | <.001 | — | — |
| Respiratory insufficiency | 1.6 (1.2–2.1) | .003 | 2.1 (1.4–2.9) | <.001 |
| Sepsis | 1.6 (1.0–2.5) | .05 | 1.5 (0.9–2.5) | .13 |
| Hemorrhage | 1.2 (0.8–1.8) | .1 | 1.5 (0.9–2.3) | .07 |
| Acute neurologic disorder | 1.2 (0.7–2.0) | .5 | 2.0 (1.1–3.5) | .02 |
| Cardiac arrest | 2.0 (1.2–3.2) | .004 | 2.0 (1.2–3.2) | .003 |
| Acute renal failure | 1.2 (0.7–2.0) | .5 | 1.5 (0.9–2.5) | .11 |
| Other | | | | |
| Age | 1.0 (0.99–1.01) | .5 | 1.2 (1.0–1.4) | .02 |
| Gender | 0.9 (0.7–1.3) | .7 | 1.0 (0.8–1.3) | .9 |
| APACHE III at admission | 1.26 (1.20–1.28) | <.001 | 1.02 (1.01–1.03) | <.001 |
| Mechanical ventilation | 1.7 (1.2–2.4) | <.001 | 1.4 (1.1–1.8) | .01 |
| Neutropenia | 1.0 (0.8–1.4) | .7 | 0.9 (0.7–1.3) | .7 |
| Septic shock during ICU stay | 2.1 (1.5–2.8) | <.001 | 1.7 (1.2–2.3) | .001 |

HR, hazard ratio; CI, confidence interval; —, reference category with which the remaining categories of the group are compared. Age is given in × to ×+20 categories; APACHE III is given in × to ×+10 categories; BMT, bone marrow transplantation; ICU, intensive care unit; APACHE III, Acute Physiology and Chronic Health Evaluation.

Table 4. Cox proportional hazard regression models for univariate and multivariate survival probability

DISCUSSION

(Staudinger, Stoiser et al. 2000)

# Some context….

**TABLE 2**
**Hospital Survival by Patient Subgroup**

| Subgroup | No. of survivors/total in subgroup (%) | *P* value |
|---|---|---|
| All episodes of CPR | 16/244 (6.6) | |
| Type of malignancy | | |
| Solid tumor | 14/114 (12.3) | |
| Hematologic/BMT | 2/130 (1.5) | 0.001 |
| Location of initial arrest | | |
| Inpatient floor areas | 14/102 (13.7) | |
| Intensive care unit | 2/142 (1.4) | < 0.001 |
| Characteristic of arrest | | |
| Unanticipated | 16/73 (21.9) | |
| Anticipated | 0/171 (0) | < 0.001 |

CPR: cardiopulmonary resuscitation; BMT: peripheral blood or bone marrow transplantation.

(Ewer, Kish et al. 2001)

# Do we understand…the risks

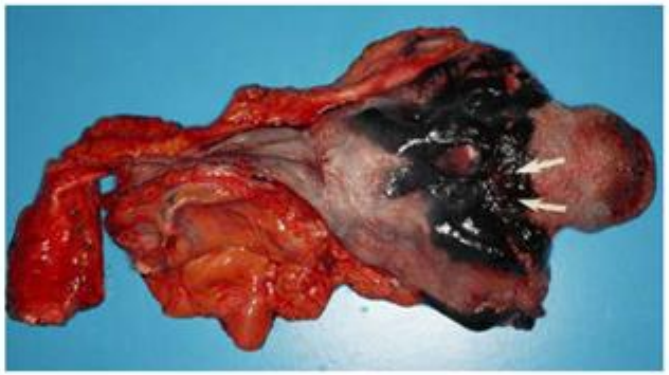

**Fig. 1** Substantial hematoma in the neck musculature and soft parts (*arrows*), caused by repeated intubation attempts and hyperextension of the head. Resuscitation of a patient undergoing phenprocoumon therapy

**Fig. 3** Rib fracture (*square*) after external CPR

**Table 1** Resuscitation-related injuries, percentage of occurrence with reference to the literature

| Injury pattern | Percentage of occurrence | Reference no. |
|---|---|---|
| Resuscitation-related injuries | 21.0–65.0 | [8] |
| Frequent complications | | |
| (Temporary) skin erythema | 80.0 | [1] |
| Rib fractures in adults | 13.0–97.0 | [5, 9] |
| Sternal fractures | 1.0–43.0 | [5, 9] |
| Tracheal lesions | 18.0 | [10] |
| Retropharyngeal bleedings | 9.2 | [19] |
| (Very) rare complications | | |
| Liver injuries | 0.6–2.1 | [15, 20] |
| Rib fractures in children | 0.0–2.0 | [9] |
| Aortic ruptures | 1.0 | [4] |
| Stomach lesions (excl gastric rupture) | 1.0 | [6] |
| Gastric rupture | <1.0 | [27] |
| Post-defibrillation rhabdomyolysis | <1.0 | [22] |
| Spleen lesions | <1.0 | [15] |
| Air embolism | <1.0 | [31, 38] |

(Buschmann and Tsokos 2009)

# Do we understand?

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

## One-Year Outcomes in Caregivers of Critically Ill Patients

Jill I. Cameron, Ph.D., Leslie M. Chu, B.Sc., Andrea Matte, B.Sc., George Tomlinson, Ph.D., Linda Chan, B.A.Sc., Claire Thomas, R.N., Jan O. Friedrich, M.D., D.Phil., Sangeeta Mehta, M.D., Francois Lamontagne, M.D., Melanie Levasseur, M.D., Niall D. Ferguson, M.D., Neill K.J. Adhikari, M.D., Jill C. Rudkowski, M.D., Hilary Meggison, M.D., Yoanna Skrobik, M.D., John Flannery, M.D., Mark Bayley, M.D., Jane Batt, M.D., Claudia dos Santos, M.D., Susan E. Abbey, M.D., Adrienne Tan, M.D., Vincent Lo, P.T., B.Sc., Sunita Mathur, P.T., Ph.D., Matteo Parotto, M.D., Denise Morris, R.N., Linda Flockhart, R.N., Eddy Fan, M.D., Ph.D., Christie M. Lee, M.D., M. Elizabeth Wilcox, M.D., Najib Ayas, M.D., Karen Choong, M.D., Robert Fowler, M.D., Damon C. Scales, M.D., Tasnim Sinuff, M.D., Brian H. Cuthbertson, M.D., Louise Rose, R.N., Ph.D., Priscila Robles, P.T., Ph.D., Stacey Burns, R.N., Marcelo Cypel, M.D., Lianne Singer, M.D., Cecilia Chaparro, M.D., Chung-Wai Chow, M.D., Shaf Keshavjee, M.D., Laurent Brochard, M.D., Paul Hébert, M.D., Arthur S. Slutsky, M.D., John C. Marshall, M.D., Deborah Cook, M.D., and Margaret S. Herridge, M.D., M.P.H., for the RECOVER Program Investigators (Phase 1: towards RECOVER) and the Canadian Critical Care Trials Group

# Do we understand?

**RESULTS**

The caregivers' mean age was 53 years, 70% were women, and 61% were caring for a spouse. A large percentage of caregivers (67% initially and 43% at 1 year) reported high levels of depressive symptoms. Depressive symptoms decreased at least partially with time in 84% of the caregivers but did not in 16%. Variables that were significantly associated with worse mental health outcomes in caregivers were younger age, greater effect of patient care on other activities, less social support, less sense of control over life, and less personal growth. No patient variables were consistently associated with caregiver outcomes over time.

(Cameron, Chu et al. 2016)

# Is there another alternative?

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

## Early Palliative Care for Patients with Metastatic Non–Small-Cell Lung Cancer

Jennifer S. Temel, M.D., Joseph A. Greer, Ph.D., Alona Muzikansky, M.A., Emily R. Gallagher, R.N., Sonal Admane, M.B., B.S., M.P.H., Vicki A. Jackson, M.D., M.P.H., Constance M. Dahlin, A.P.N., Craig D. Blinderman, M.D., Juliet Jacobsen, M.D., William F. Pirl, M.D., M.P.H., J. Andrew Billings, M.D., and Thomas J. Lynch, M.D.

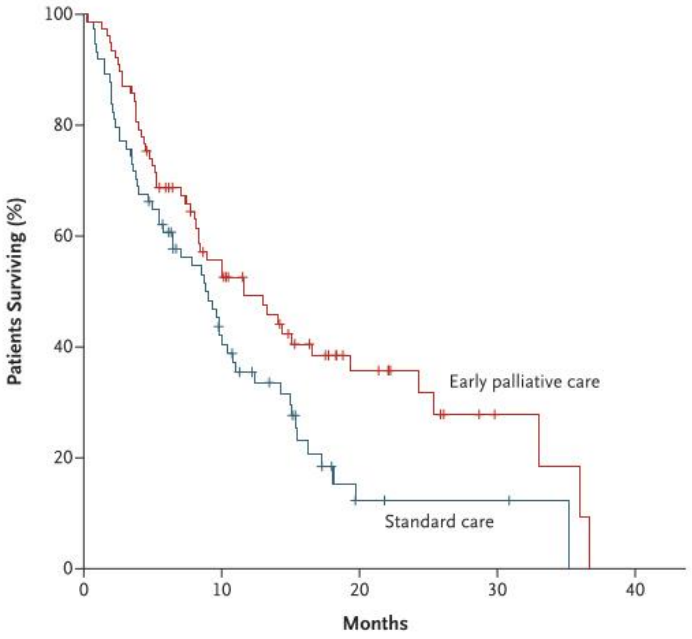


**Figure 3. Kaplan–Meier Estimates of Survival According to Study Group.**
Survival was calculated from the time of enrollment to the time of death, if it occurred during the study period, or to the time of censoring of data on December 1, 2009. Median estimates of survival were as follows: 9.8 months (95% confidence interval [CI], 7.9 to 11.7) in the entire sample (151 patients), 11.6 months (95% CI, 6.4 to 16.9) in the group assigned to early palliative care (77 patients), and 8.9 months (95% CI, 6.3 to 11.4) in the standard care group (74 patients) (P=0.02 with the use of the log-rank test). After adjustment for age, sex, and baseline Eastern Cooperative Oncology Group performance status, the group assignment remained a significant predictor of survival (hazard ratio for death in the standard care group, 1.70; 95% CI, 1.14 to 2.54; P=0.01). Tick marks indicate censoring of data.

(Temel , Greer  et al. 2010)

# Is there a general misunderstanding?



**SPECIAL ARTICLE**

## CARDIOPULMONARY RESUSCITATION ON TELEVISION

### Miracles and Misinformation

SUSAN J. DIEM, M.D., M.P.H., JOHN D. LANTOS, M.D., AND JAMES A. TULSKY, M.D.

# Is there a general misunderstanding?

Table 3. Survival after CPR in Three Television Series.

| Series | No. of Episodes | No. of Occurrences of CPR | Short-Term Survival after CPR | Survival to Discharge after CPR | Short-Term Survival, Death in Hospital | Short-Term Survival without Follow-up |
|---|---|---|---|---|---|---|
| | | | *number of patients (percent)* | | | |
| *Chicago Hope* | 22 | 11 | 7 (64) | 4 (36) | 3 (27) | 0 |
| *ER* | 25 | 31 | 21 (68) | NA* | 3 (10) | 18 (58) |
| *Rescue 911* | 50 | 18 | 18 (100) | 18 (100) | 0 | 0 |
| Total | 97 | 60 | 46 (77) | 22 (37) | 6 (10) | 18 (30) |

*Not applicable. *ER* deals only with events in the emergency department.

**The Focus on Miracles**

On *Rescue 911*, the term "miracle" was used to describe the patient's survival in 10 of 18 instances (56 percent). The use of the term was supported by the comments of physicians who were involved in the care of the actual patient. In the 10 episodes, the real physicians described their initial extreme pessimism about their patients' chances for a meaningful recovery. After all the patients went on to lead normal lives, family members and health care providers called the recoveries miraculous.

Table 1. Causes of Cardiac Arrests in Three Television Series.

| Cause | No. of Cases |
|---|---|
| Near-drowning | 9 |
| Motor vehicle accident | 5 |
| Gunshot wound | 8 |
| Stab wound | 1 |
| Other trauma | 7 |
| Arrhythmia | 7 |
| Myocardial infarction | 6 |
| Other cardiac cause | 3 |
| Sepsis | 2 |
| Lightning | 2 |
| Electric shock | 1 |
| Hypothermia | 1 |
| Inhalation of cleaning agent and butane | 1 |
| Ruptured abdominal aortic aneurysm | 1 |
| Congenital heart disease | 1 |
| Diabetic ketoacidosis | 1 |
| Pericarditis due to lupus erythematosus | 1 |
| Eclampsia | 1 |
| Drug overdose | 1 |
| Cocaine toxicity | 1 |

(Diem, Lantos et al. 1996)

# Understanding

“A single false belief can invalidate a patient's or subjects consent, even when there has been a suitable disclosure and comprehension”

The devil’s advocate:

- The physician overly nihilistic of poor prognosis
- The SDM’s overly optimistic view of “God’s plan” or “miracles”

# Do no harm

**SUPREME COURT OF CANADA**

**CITATION:** Cuthbertson *v.* Rasouli, 2013 SCC 53, [2013] 3 S.C.R. 341

**DATE:** 20131018
**DOCKET:** 34362

**BETWEEN:**

**Brian Cuthbertson and Gordon Rubenfeld**
Appellants
and
**Hassan Rasouli, by his Litigation Guardian and Substitute Decision-Maker, Parichehr Salasel**
Respondent
- and -
**Consent and Capacity Board, Euthanasia Prevention Coalition, Canadian Critical Care Society, Canadian Association of Critical Care Nurses, Advocacy Centre for the Elderly, ARCH Disability Law Centre, Mental Health Legal Committee, HIV & AIDS Legal Clinic Ontario and Evangelical Fellowship of Canada**
Interveners

# Do no harm

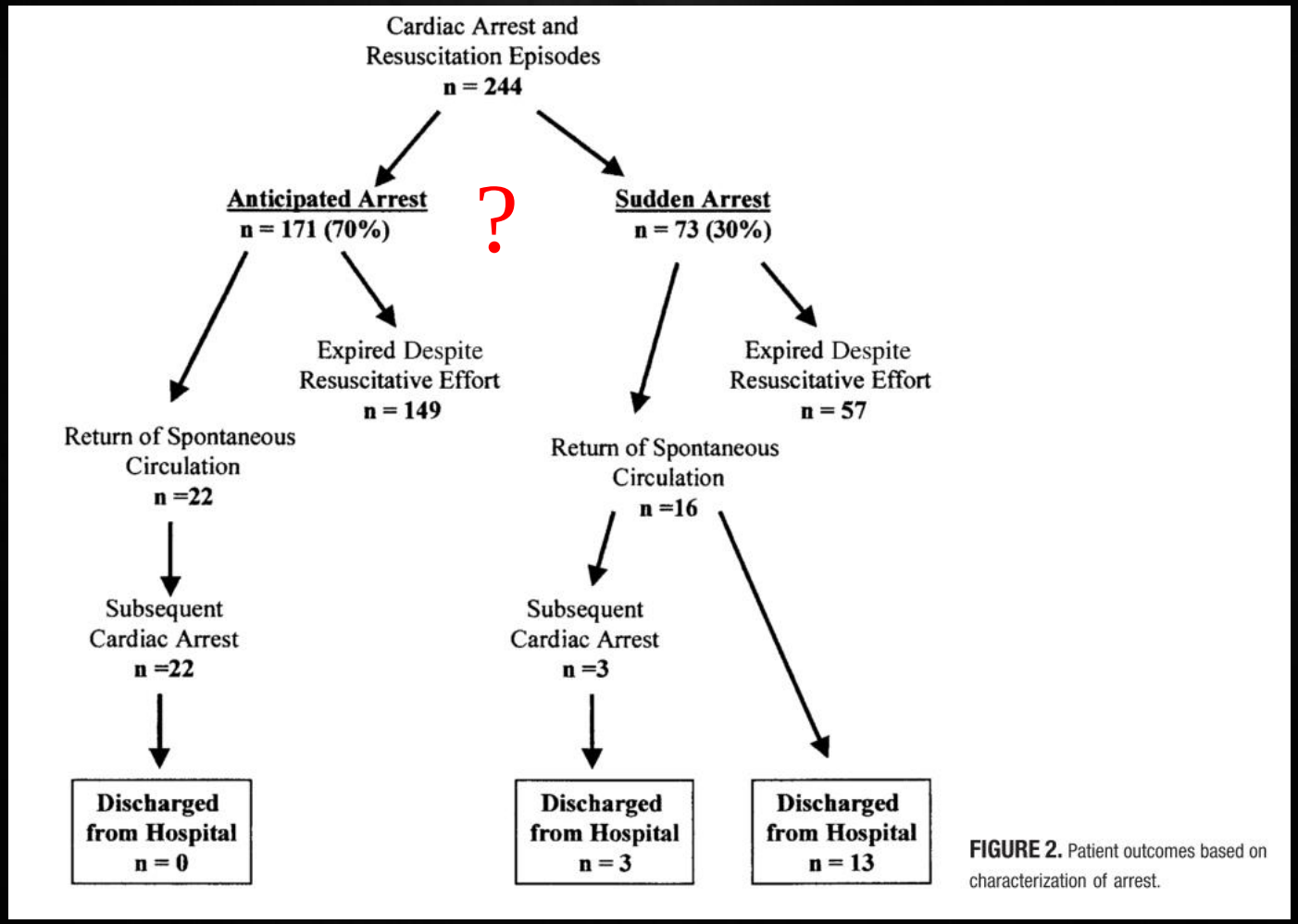


**FIGURE 2.** Patient outcomes based on characterization of arrest.

(Ewer, Kish et al. 2001)

# Do no harm

**Extrapolated Effects:**

- Given ambiguity of prognosis we need to have ability for limitations/time sensitive directives for trail of invasive care including CPR

- If there is no availability for trails of care when prognosis is unclear you have created a binary clinical environment with both options causing harm ….

**Two possible physicians:**

- Provide excessive levels of care causing harm and suffering in cases of high level of futility and low likelihood of reversibility to ensure no one is missed
- Provide restricted invasive treatments to avoid suffering in cases of likely futility, but risk being overly pessimistic and not helping a select few patients that may benefit

# So what's the right answer

The current CPSO policy:

- Is applying the standards of consent for an elective procedure to a clinically complex and dynamic intervention

- It has made a decision on value for conflict resolution that gives an avenue to open the physician/patient discussion to the light and protect the rights of the ones deemed more vulnerable in that relationship

- Yet, at the same time, it has done this seemingly at the sacrifice of the do no harm principle

# So what's the right answer

The current CPSO policy:

- It assumes seemingly that we, as physicians, no longer are living up to our fiduciary responsibility of doing what is best for our patients

- The college is there, not just to protect the people but to protect the standard of medicine

- Policies should not work to abandon the standards of medicine but rather for strict maintenance of our key pillars including doing no harm

# So what's the right answer

So now I ask, as a physician about to finish my training……..

If my college is now no longer protecting the maintenance of the standards of medicine and believe that I do not practice with the concrete and absolute ideal of doing no harm….

Where do we go from here?

Thank you

Special Thanks To
Dr. Laura Hawryluck

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