# High risk Procedures An ICU perspective

David Evans
Staff Specialist RAH ICU
VMO Memorial Hospital CCU

# Outline

- Some personal thoughts on ICU's role
- Differences between perceived and likely problems
- The effects of severe critical illness
- Discussions in high risk scenarios and some techniques


Risk
Management
Services

# Perspective

- Preventing a problem is normally a lot easier than treating it
- For example VTE prophylaxis
- There is confusion as to the best way
  - Heparin superior Enoxaparin in Trauma
    - N Engl J Med. 1996 Sep 5;335(10):701-7. A comparison of low-dose heparin with low-molecular-weight heparin as prophylaxis against venous thromboembolism after major trauma. Geerts WH1,
  - Heparin equivalent Enoxaparin and cheaper in Trauma
    - Am Surg. 2010 Jun;76(6):563-70. Gold Medal Forum Winner. Unfractionated heparin three times a day versus enoxaparin in the prevention of deep vein thrombosis in trauma patients. Arnold JD
  - Heparin equivalent Dalteparin in ICU patients
    - Dalteparin versus unfractionated heparin in critically ill patients. PROTECT Investigators for the Canadian Critical Care Trials Group and the Australian and New Zealand Intensive Care Society Clinical Trials Group, Cook D, N Engl J Med. 2011 Apr 7;364(14):1305-14.

# Perspective

- Preventing a problem is normally a lot easier than treating it
- For example VTE prophylaxis
- There is confusion as to the best way
  - Heparin superior Enoxaparin in Trauma
    - N Engl J Med. 1996 Sep 5;335(10):701-7. A comparison of low-dose heparin with low-molecular-weight heparin as prophylaxis against venous thromboembolism after major trauma. Geerts WH1,
  - Heparin equivalent Enoxaparin and cheaper in Trauma
    - Am Surg. 2010 Jun;76(6):563-70. Gold Medal Forum Winner. Unfractionated heparin three times a day versus enoxaparin in the prevention of deep vein thrombosis in trauma patients. Arnold JD
  - Heparin equivalent Dalteparin in ICU patients
      - Dalteparin versus unfractionated heparin in critically ill patients. PROTECT Investigators for the Canadian Critical Care Trials Group and the Australian and New Zealand Intensive Care Society Clinical Trials Group, Cook D, N Engl J Med. 2011 Apr 7;364(14):1305-14.
- It would be unethical to do a placebo controlled trial as no treatment is potentially harmful

# Perspective

- Preventing a problem is normally a lot easier than treating it
- For example VTE prophylaxis
- There is confusion as to the best way
  - Heparin superior Enoxaparin in Trauma
    - N Engl J Med. 1996 Sep 5;335(10):701-7. A comparison of low-dose heparin with low-molecular-weight heparin as prophylaxis against venous thromboembolism after major trauma. Geerts WH1,
  - Heparin equivalent Enoxaparin and cheaper in Trauma
    - Am Surg. 2010 Jun;76(6):563-70. Gold Medal Forum Winner. Unfractionated heparin three times a day versus enoxaparin in the prevention of deep vein thrombosis in trauma patients. Arnold JD
  - Heparin equivalent Dalteparin in ICU patients
      - Dalteparin versus unfractionated heparin in critically ill patients. PROTECT Investigators for the Canadian Critical Care Trials Group and the Australian and New Zealand Intensive Care Society Clinical Trials Group, Cook D, N Engl J Med. 2011 Apr 7;364(14):1305-14.
- It would be unethical to do a placebo controlled trial as no treatment is potentially harmful
- Simply ensuring a treatment is in place is an effective intervention

# ICU perspective

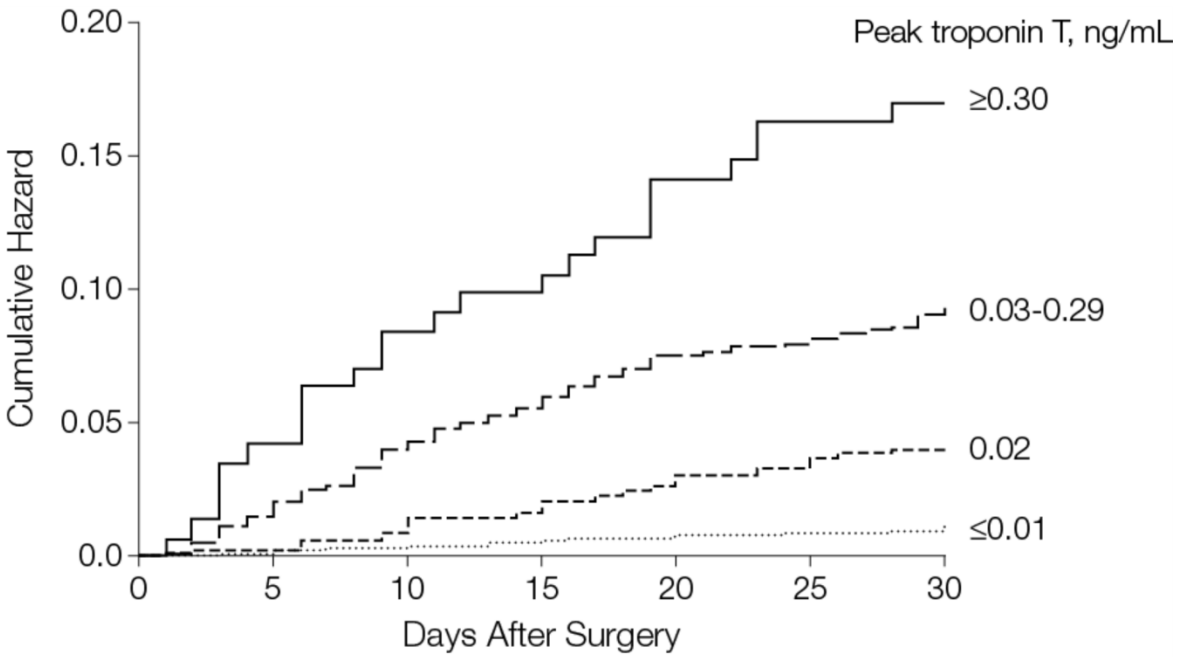
- Acute Prevention is important
- System processes and ensuring many small measures are correct “housekeeping” improves outcomes
- It is not dramatic
- The exact way this needs to be done is a shifting target

# Cardiac Risk

- VISION trial
- Association between postoperative troponin levels and 30-day mortality among patients undergoing noncardiac surgery.
  - Vascular Events In Noncardiac Surgery Patients Cohort Evaluation (VISION) Study Investigators, JAMA. 2012 Jun 6;307(21):2295-304
- 15,133 patients over 45 undergoing non cardiac surgery
- Fourth generation Troponin T and assosciation with mortality

From: **Association Between Postoperative Troponin Levels and 30-Day Mortality Among Patients Undergoing Noncardiac Surgery**

JAMA. 2012;307(21):2295-2304. doi:10.1001/jama.2012.5502

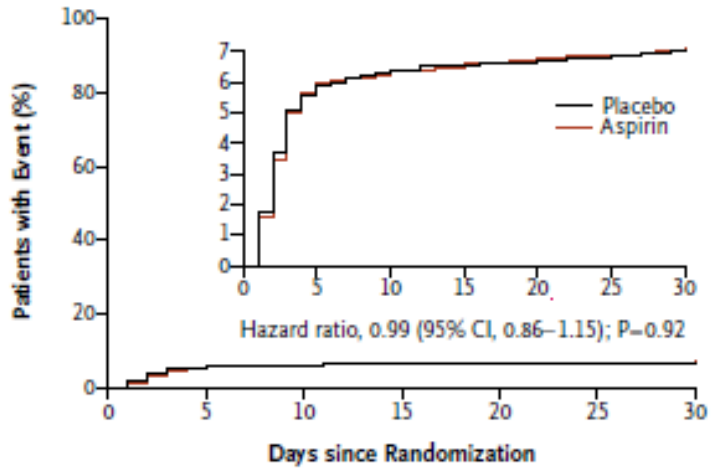



No. at risk

| Peak troponin T, ng/mL | | | | | | | |
|---|---|---|---|---|---|---|---|
| ≥0.30 | 142 | 136 | 129 | 127 | 121 | 118 | 117 |
| 0.03-0.29 | 1121 | 1103 | 1075 | 1058 | 1036 | 1030 | 1018 |
| 0.02 | 494 | 492 | 489 | 485 | 480 | 477 | 473 |
| ≤0.01 | 13 376 | 13 348 | 13 300 | 13 271 | 13 250 | 13 230 | 13 209 |

# Cardiac Risk

- POISE 2 trial
- Aspirin in Patients Undergoing Noncardiac Surgery
  - P.J. Devereaux, POISE-2 Investigators N Engl J Med 2014; 370:1494-1503April 17, 2014D
- 10,010 patients undergoing elective non cardiac surgery
- 2 by 2 factorial design aspirin/ clonidine/placebo




| No. at Risk | | | | | | | |
|---|---|---|---|---|---|---|---|
| Placebo | 5012 | 4724 | 4696 | 4680 | 4669 | 4662 | 4652 |
| Aspirin | 4998 | 4713 | 4678 | 4665 | 4660 | 4653 | 4643 |

**Figure 1. Kaplan–Meier Estimates of the Primary Composite Outcome of Death or Nonfatal Myocardial Infarction at 30 Days.**

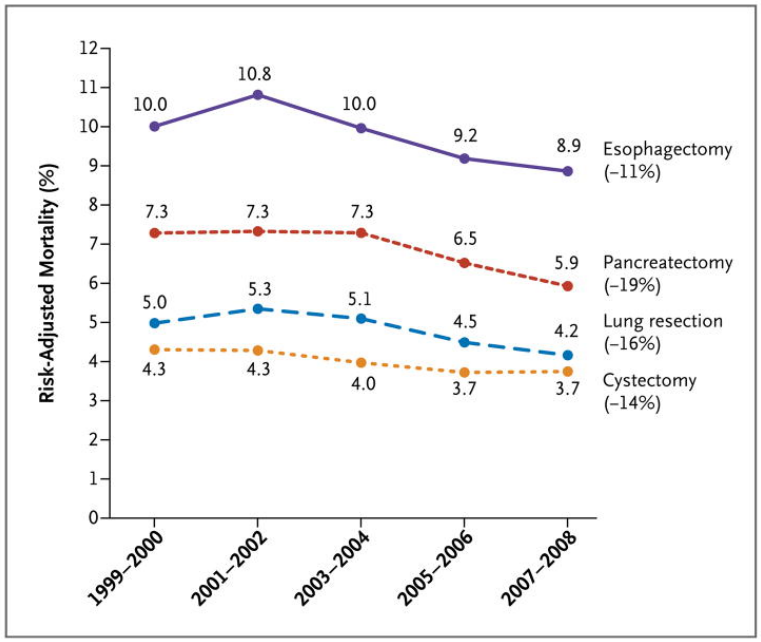
The inset shows the same data on an enlarged y axis.

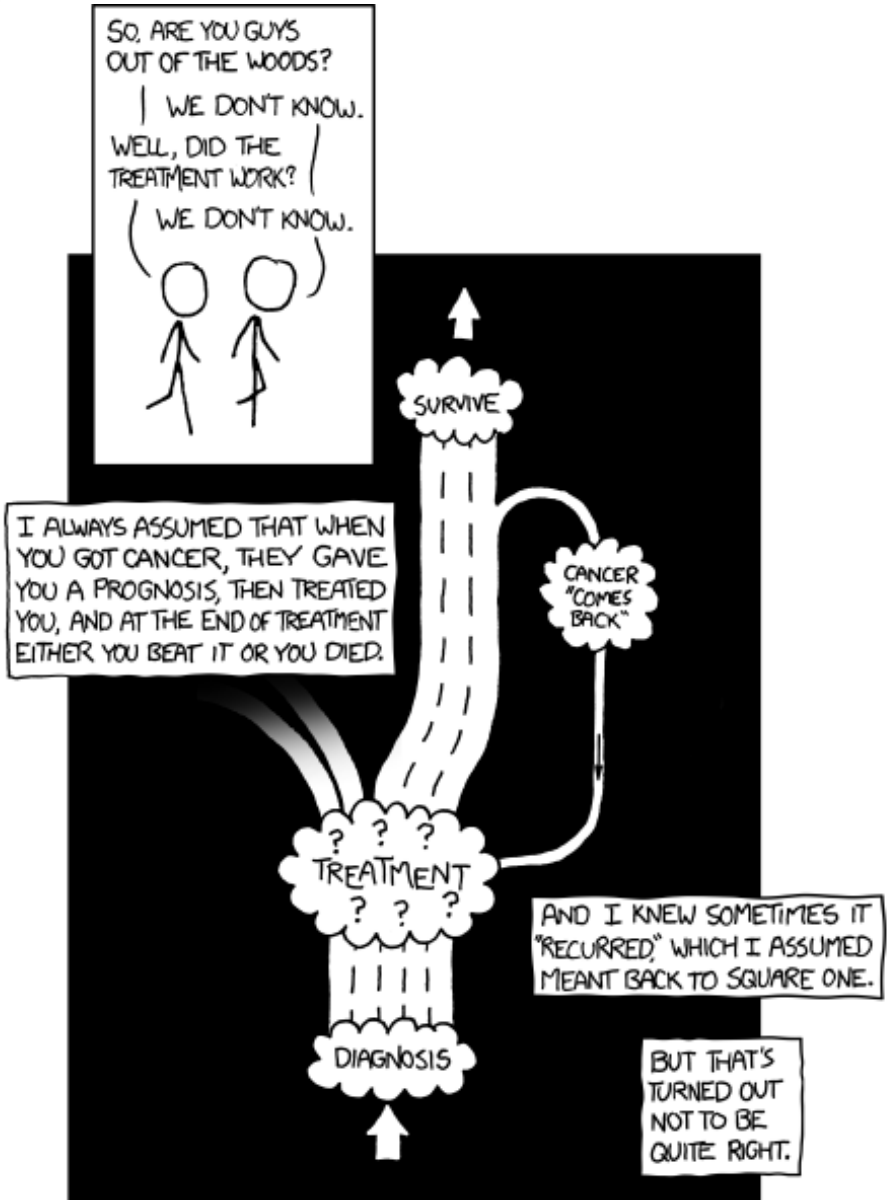
- Aspirin prevented cardiac events but increased bleeding risk
- BUT

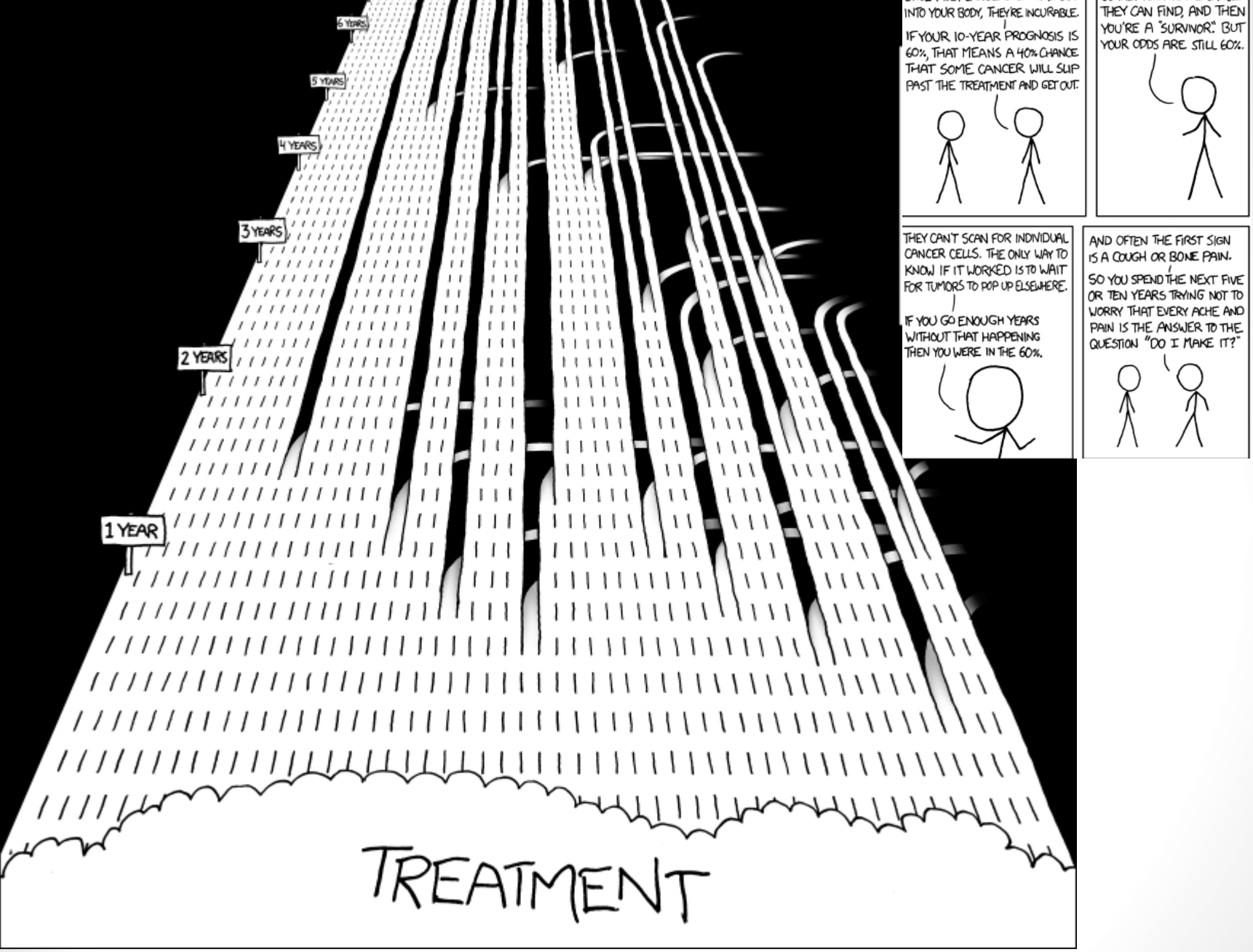
Aspirin related bleeds were strongly associated with cardiac events negating any benefit

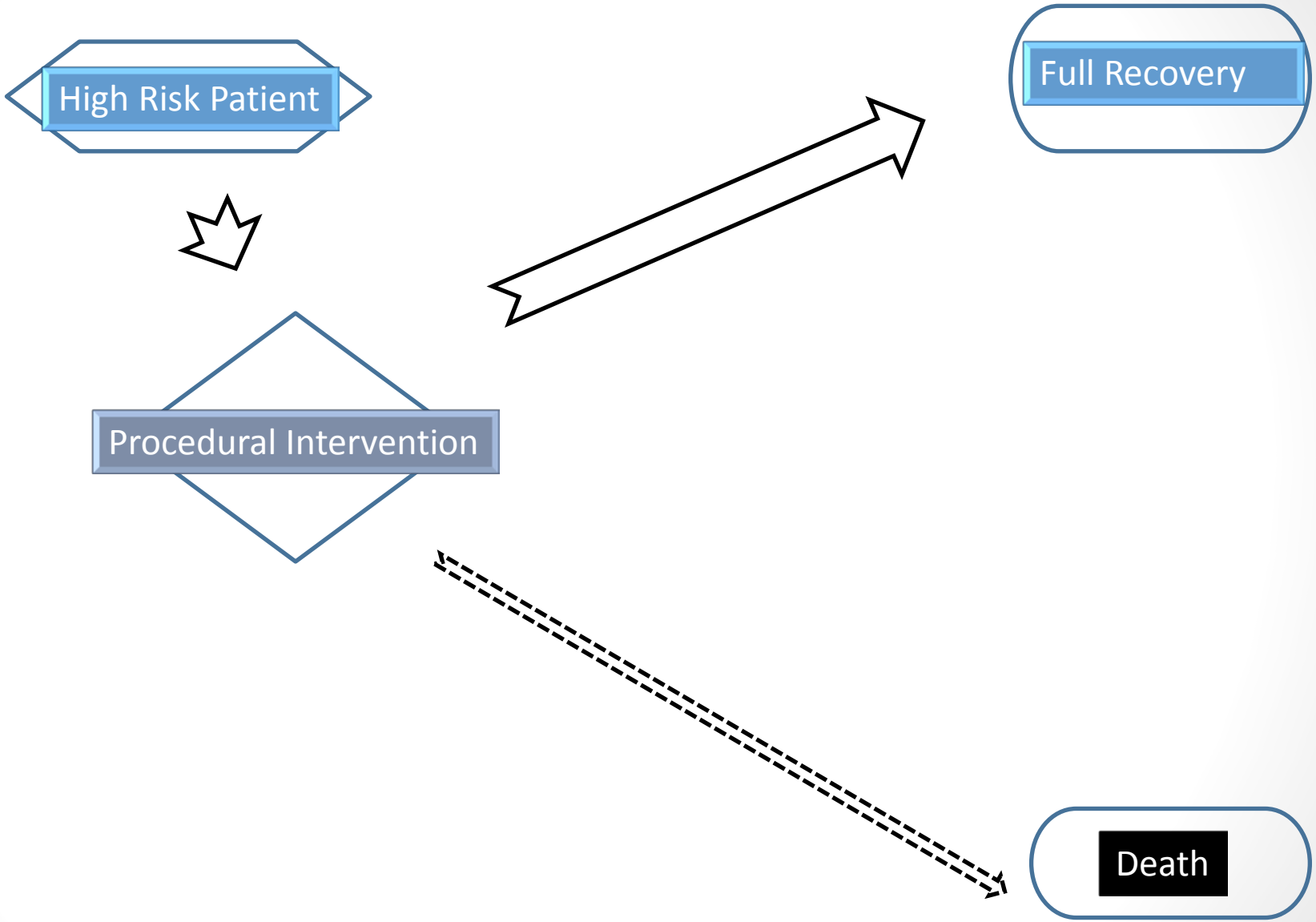
# Outcomes

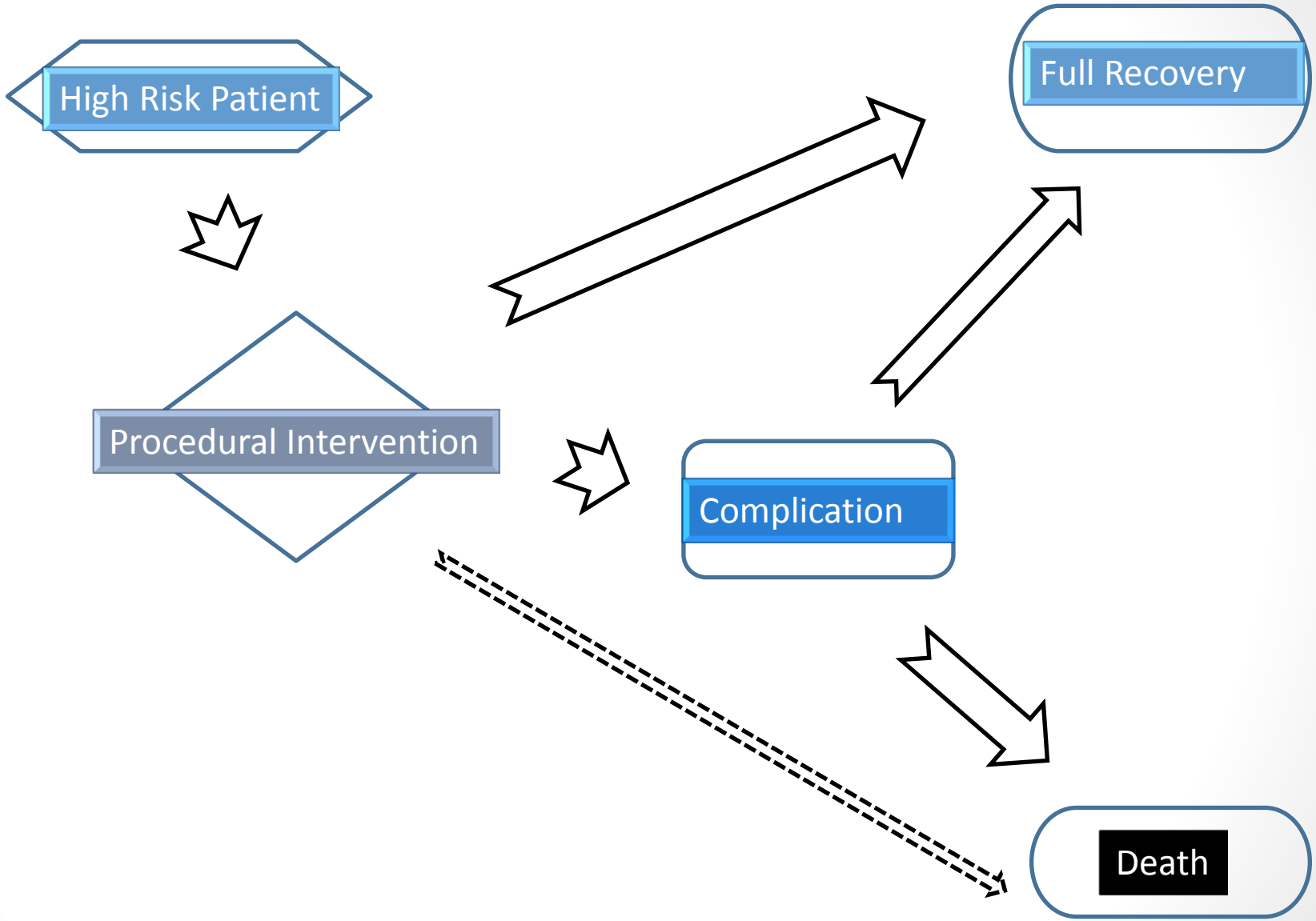
- Predictive tools concentrate on Mortality
- Mortality is a relatively rare and decreasing event
- Population prediction is not individual outcome
- Other endpoints may be important

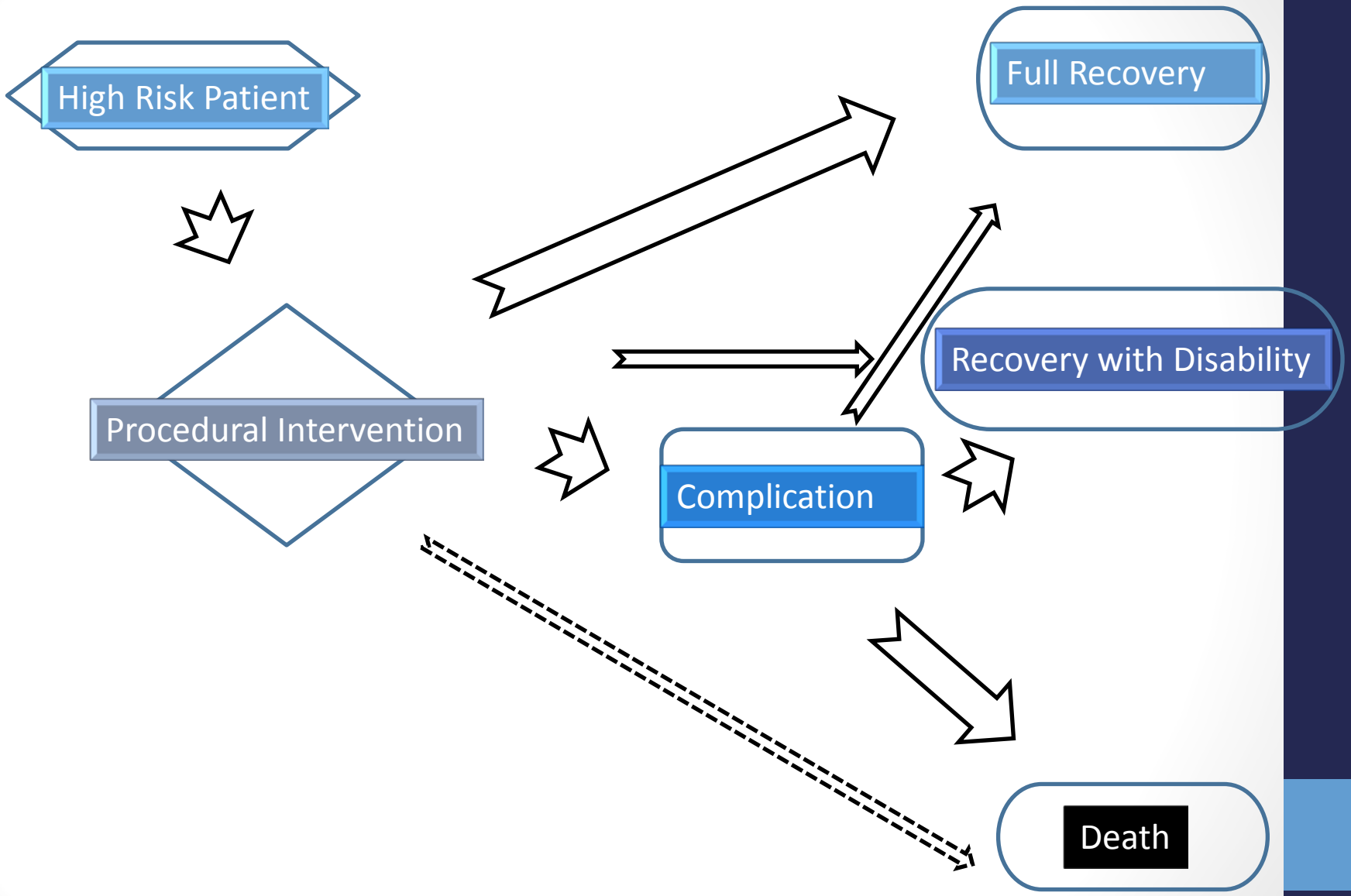



SO, ARE YOU GUYS OUT OF THE WOODS?
WE DON'T KNOW.
WELL, DID THE TREATMENT WORK?
WE DON'T KNOW.
SURVIVE
I ALWAYS ASSUMED THAT WHEN YOU GOT CANCER, THEY GAVE YOU A PROGNOSIS, THEN TREATED YOU, AND AT THE END OF TREATMENT EITHER YOU BEAT IT OR YOU DIED.
CANCER "COMES BACK"
TREATMENT
AND I KNEW SOMETIMES IT "RECURRED," WHICH I ASSUMED MEANT BACK TO SQUARE ONE.
DIAGNOSIS
BUT THAT'S TURNED OUT NOT TO BE QUITE RIGHT.


6 YEARS
5 YEARS
4 YEARS
3 YEARS
2 YEARS
1 YEAR
TREATMENT
INTO YOUR BODY, THEY'RE INCURABLE.
IF YOUR 10-YEAR PROGNOSIS IS 60%, THAT MEANS A 40% CHANCE THAT SOME CANCER WILL SLIP PAST THE TREATMENT AND GET OUT.
THEY CAN FIND, AND THEN YOU'RE A "SURVIVOR." BUT YOUR ODDS ARE STILL 60%.
THEY CAN'T SCAN FOR INDIVIDUAL CANCER CELLS. THE ONLY WAY TO KNOW IF IT WORKED IS TO WAIT FOR TUMORS TO POP UP ELSEWHERE.
IF YOU GO ENOUGH YEARS WITHOUT THAT HAPPENING THEN YOU WERE IN THE 60%.
AND OFTEN THE FIRST SIGN IS A COUGH OR BONE PAIN.
SO YOU SPEND THE NEXT FIVE OR TEN YEARS TRYING NOT TO WORRY THAT EVERY ACHE AND PAIN IS THE ANSWER TO THE QUESTION "DO I MAKE IT?"


High Risk Patient
Full Recovery
Procedural Intervention
Death


High Risk Patient
Full Recovery
Procedural Intervention
Complication
Death


High Risk Patient
Procedural Intervention
Full Recovery
Recovery with Disability
Complication
Death

# Disability or Death?

## Patient Preferences for Stroke Outcomes

Neil A. Solomon, MD; Henry A. Glick, MA; Christopher J. Russo;
Jason Lee; Kevin A. Schulman, MD

Stroke 1994

**TABLE 4. Results of Utility Assessment for Nonfatal Strokes: Raw Scores**

| Deficit | Mild | Moderate | Severe | Total |
|---|---|---|---|---|
| Language | 54±21 (55) | 40±21 (40) | 15±14 (10) | 36±25 (35) |
| Cognitive | 54±21 (50) | 37±21 (40) | 8±9 (5) | 33±26 (25) |
| Motor | 45±23 (45) | 43±22 (50) | 3±4 (1) | 31±27 (25) |
| Total | 51±22 (50) | 40±22 (40) | 8±11 (5) | |

Values are expressed as mean±SD (median). Average scores assigned for stroke scenarios by patients. Perfect health was assigned a score of 100. Death had a score of 9.8±14 (5).

# Scenario

- An 80-year-old nursing home resident has a colon mass
- Scheduled for a colectomy.

Finlayson E, Zhao S, Boscardin WJ, Fries BE, Landefeld CS, Dudley RA. Functional status after colon cancer surgery in elderly nursing home residents. J Am Geriatr Soc 2012;60:967-73.

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 FEBRUARY 20, 2003 VOL. 348 NO. 8

One-Year Outcomes in Survivors of the Acute Respiratory Distress Syndrome

Margaret S. Herridge, M.D., M.P.H., Angela M. Cheung, M.D., Ph.D., Catherine M. Tansey, M.Sc., Andrea Matte-Martyn, B.Sc., Natalia Diaz-Granados, B.Sc., Fatma Al-Saidi, M.D., Andrew B. Cooper, M.D., Cameron B. Guest, M.D., C. David Mazer, M.D., Sangeeta Mehta, M.D., Thomas E. Stewart, M.D., Aiala Barr, Ph.D., Deborah Cook, M.D., and Arthur S. Slutsky, M.D., for the Canadian Critical Care Trials Group

- Prospectively enrolled 195 patients with ARDS
- 117 Survivors (60%)
- Median
  - Age 45 (36-58)
  - ICU LOS 25 days  Hospital 45 days
  - 50% tracheostomy
- 83% had no or one coexisting condition
- 83% were working full time
- 109 followed up
- Mixed medical surgical population

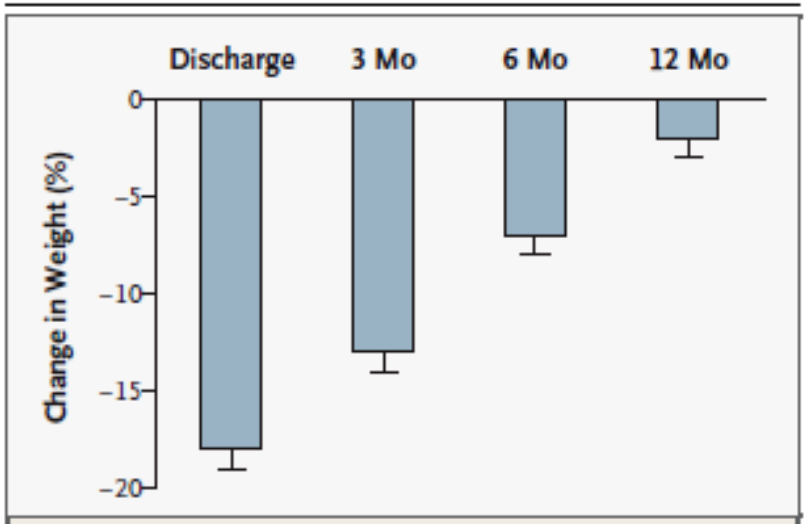
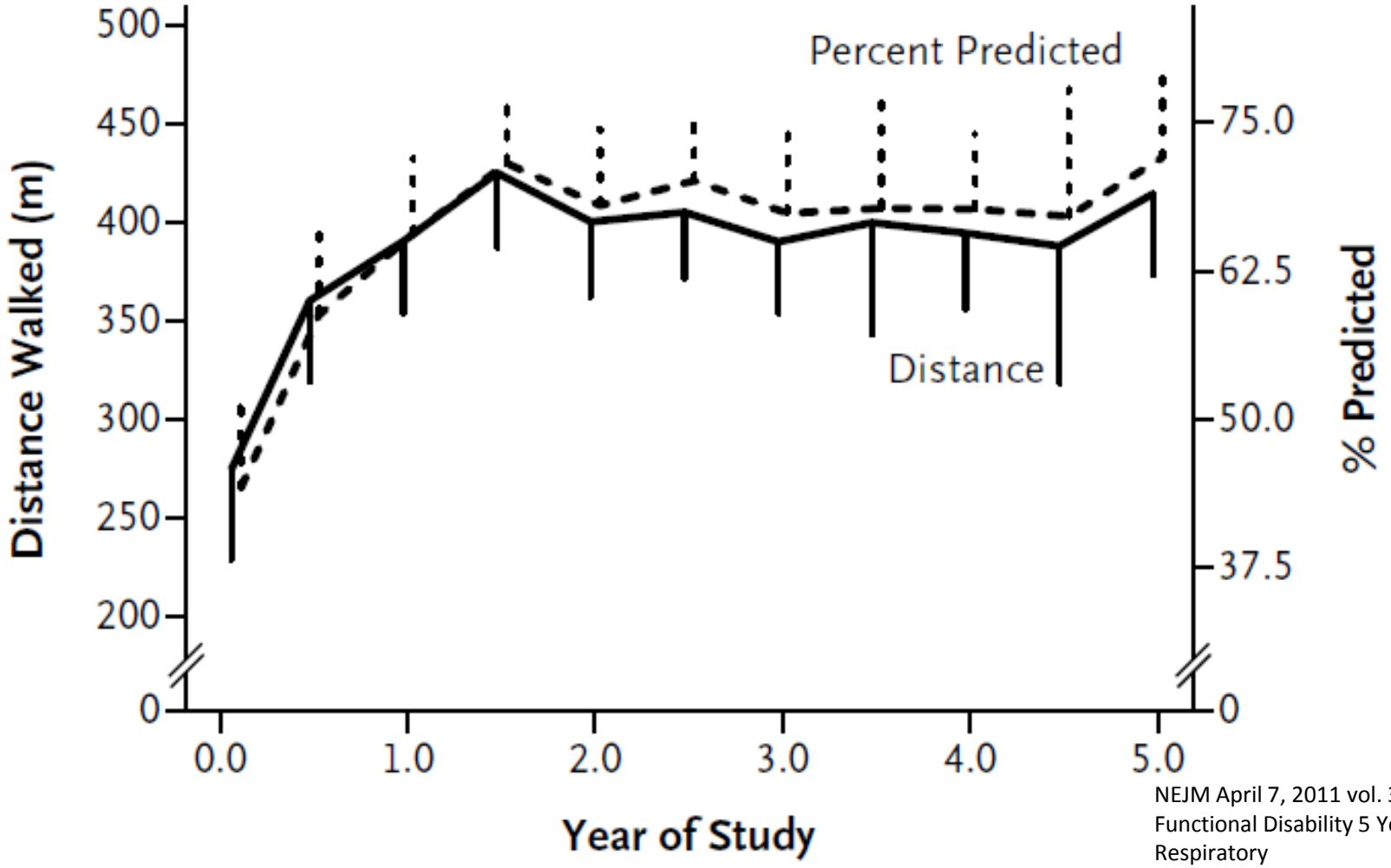



**Figure 2.** Mean (+SE) Change in Weight from Base Line among Patients with the Acute Respiratory Distress Syndrome at the Time of Discharge from the ICU and at 3, 6, and 12 Months.

**Table 3.** Ability to Exercise and Return to Work and Health-Related Quality of Life among Patients with the Acute Respiratory Distress Syndrome during the First 12 Months after Discharge from the ICU.

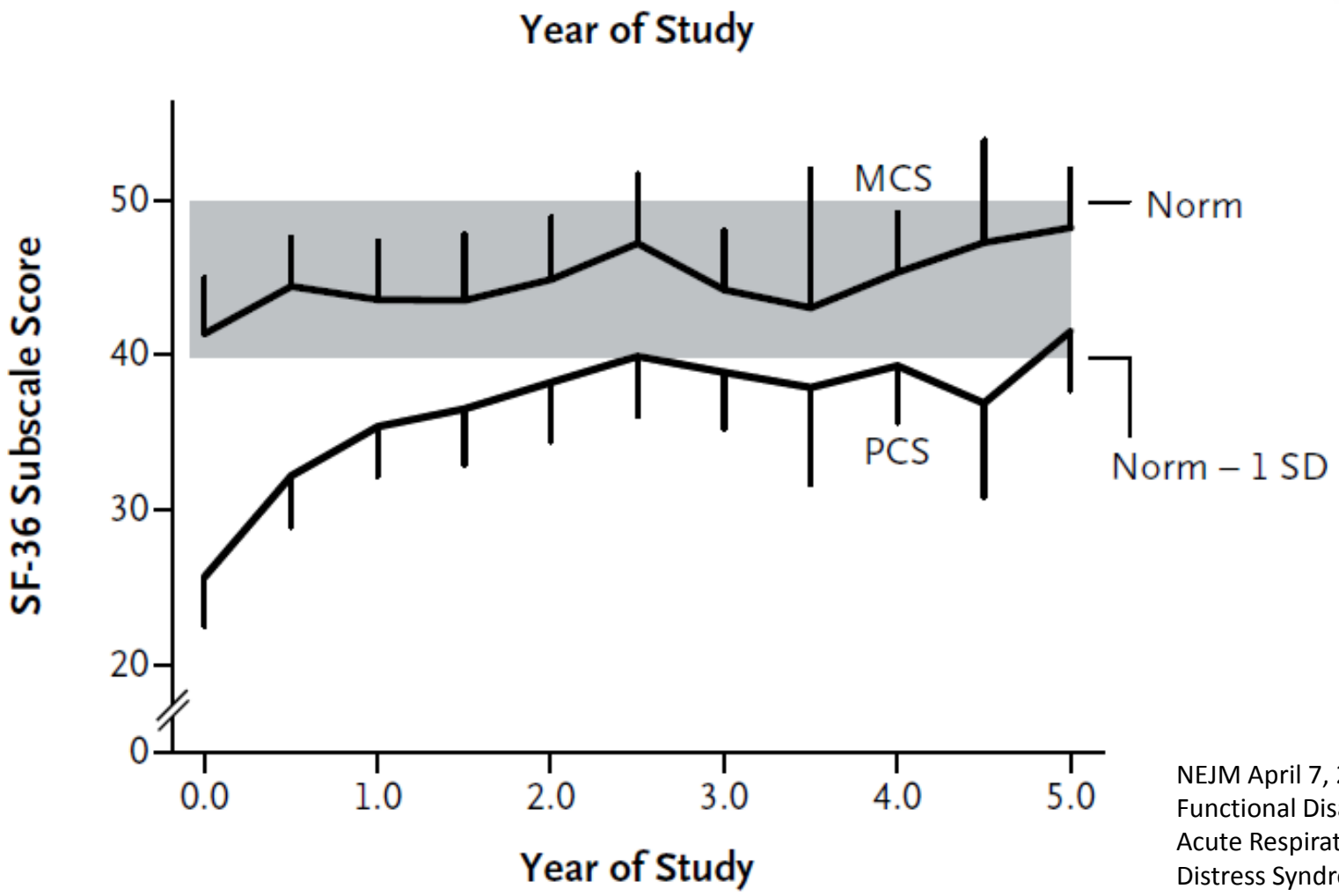
| Outcome | 3 Months | 6 Months | 12 Months |
|---|---|---|---|
| Distance walked in 6 min | | | |
| No. evaluated | 80* | 78† | 81‡ |
| Median — m | 281 | 396 | 422 |
| Interquartile range — m | 55–454 | 244–500 | 277–510 |
| Percentage of predicted value§ | 49 | 64 | 66 |
| Returned to work — no./total no. (%)¶ | 13/83 (16) | 26/82 (32) | 40/82 (49)‖ |
| Returned to original work — no./total no. (%) | 10/13 (77) | 23/26 (88) | 31/40 (78) |
| SF-36 score** | | | |
| Physical functioning | | | |
| Median (normal value) | 35 (90) | 55 (89) | 60 (89) |
| Interquartile range | 15–58 | 30–75 | 35–85 |
| Physical role | | | |
| Median (normal value) | 0 (85) | 0 (84) | 25 (84) |
| Interquartile range | 0–0 | 0–50 | 0–100 |
| Pain | | | |
| Median (normal value) | 42 (77) | 53 (77) | 62 (77) |
| Interquartile range | 31–73 | 37–84 | 41–100 |
| General health | | | |
| Median (normal value) | 52 (78) | 56 (77) | 52 (77) |
| Interquartile range | 35–67 | 36–74 | 35–77 |
| Vitality | | | |
| Median (normal value) | 45 (69) | 55 (68) | 55 (68) |
| Interquartile range | 30–55 | 28–63 | 28–63 |
| Social functioning | | | |
| Median (normal value) | 38 (88) | 63 (88) | 63 (88) |
| Interquartile range | 19–69 | 38–88 | 38–100 |
| Emotional role | | | |
| Median (normal value) | 33 (84) | 67 (84) | 100 (84) |
| Interquartile range | 0–100 | 0–100 | 17–100 |
| Mental health | | | |
| Median (normal value) | 68 (78) | 70 (78) | 72 (78) |
| Interquartile range | 54–80 | 54–88 | 52–88 |

# At 5 years after ICU discharge




NEJM April 7, 2011 vol. 364 no. 14
Functional Disability 5 Years after Acute Respiratory
Distress Syndrome
Margaret S. Herridge et al.

# At 5 years after ICU discharge




NEJM April 7, 2011 vol. 364 no. 14
Functional Disability 5 Years after Acute Respiratory Distress Syndrome
Margaret S. Herridge et al.

# Mortality and quality of life in the five years after severe sepsis

Brian H Cuthbertson1*, Andrew Elders2, Sally Hall3, Jane Taylor3, Graeme MacLennan3, Fiona Mackirdy4, Simon Mackenzie45 and the Scottish Critical Care Trials Group and the Scottish Intensive Care Society Audit Group

- Total of 439 patients were recruited with from 26 Scottish ICU's
- 58% mortality at 3.5 years
- 61% mortality at 5 years.
- Total of 85 and 67 patients responded at 3.5 and 5 years

| SF-36 | 3.5 years | 5 years |
|---|---|---|
| Physical PCS | mean 41.8 (SD 11.8) | mean 44.8 (SD 12.7) |
| Mental MCS | mean 47.7 (SD 14.6) | mean 48.8 (SD 12.6) |

| | 3.5 years | | 5 years | |
|---|---|---|---|---|
| | Yes | No | Yes | No |
| Would you be willing to be treated in an ICU again | 100% | 0% | 100% | 0% |
| Do you have unpleasant recall of ICU events | 31% | 69% | 29% | 71% |
| Do you have unpleasant memories of ICU events | 14% | 86% | 19% | 81% |

- Having seen the effect of severe critical illness on a relatively healthy population *What about those with pre-existing comorbidities?*

# Association between frailty and short- and long-term outcomes among critically ill patients: a multicentre prospective cohort study

Sean M. Bagshaw MD, H. Thomas Stelfox MD, Robert C. McDermid MD, Darryl B. Rolfson MD, Ross T. Tsuyuki PharmD, Nadia Baig BSc, Barbara Artiuch MD, Quazi Ibrahim MSc, Daniel E. Stollery MD, Ella Rokosh MD, Sumit R. Majumdar MD

- 6 Canadian ICU's
- Adults admitted from Feb 2010 to Jul 2011
- Aged 50 or more

# Clinical Frailty Scale*

1 **Very Fit** – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 **Well** – People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g. seasonally.

3 **Managing Well** – People whose **medical problems are well controlled,** but are **not regularly active** beyond routine walking.

4 **Vulnerable** – While **not dependent** on others for daily help, often **symptoms limit activities.** A common complaint is being "slowed up", and/or being tired during the day.

5 **Mildly Frail** – These people often have **more evident slowing,** and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 **Moderately Frail** – People need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 **Severely Frail** – **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 **Very Severely Frail** – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9. **Terminally Ill** - Approaching the end of life. This category applies to people with **a life expectancy <6 months**, who are **not otherwise evidently frail.**

**Scoring frailty in people with dementia**

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.


* 1. Canadian Study on Health & Aging, Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489-495.




DALHOUSIE UNIVERSITY
Inspiring Minds

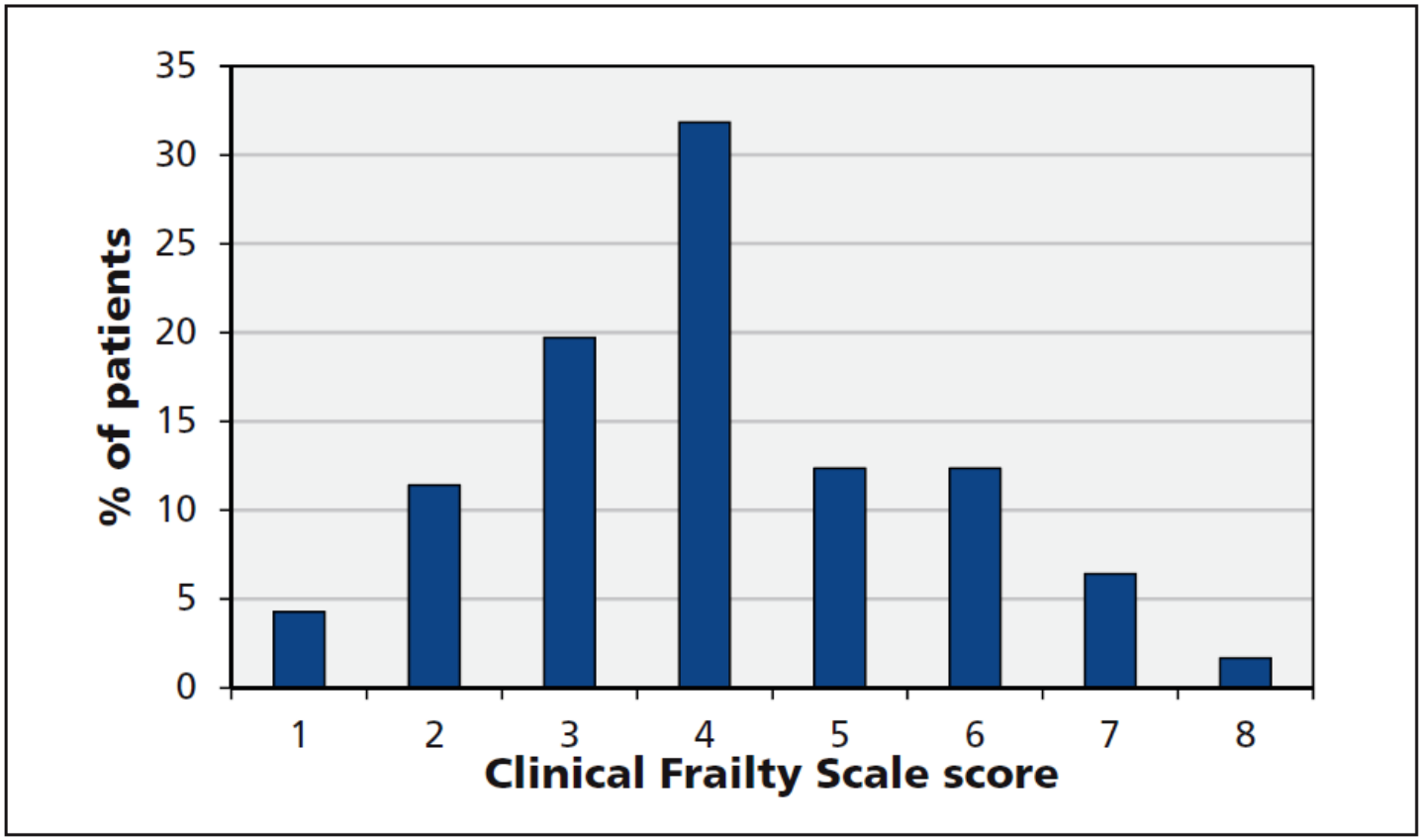



Figure 2: Distribution of Clinical Frailty Scale scores and prevalence of frailty (score > 4) among the participants.

**Table 2:** Treatment intensity and use of resources associated with admission to intensive care unit, by frailty status

| Variable | Group; no. (%) of patients | | |
|---|---|---|---|
| | Frail $n = 138$ | Not frail $n = 283$ | $p$ value* |
| Mechanical ventilation | 122 (88.4) | 240 (84.8) | 0.3 |
| Re-intubation | 17 (12.3) | 30 (10.6) | 0.6 |
| Tracheostomy | 18 (13.0) | 35 (12.4) | 0.9 |
| Vasoactive medications | 83 (60.1) | 146 (51.6) | 0.1 |
| Renal replacement therapy | 14 (10.1) | 33 (11.7) | 0.6 |
| Blood transfusion | 57 (41.3) | 113 (39.9) | 0.8 |
| Surgical procedure or re-operation | 26 (18.8) | 63 (22.3) | 0.4 |

*$\chi^2$ test.

- All patients had similar intensity of treatment
- Frail patients more likely to have limitations in ICU (34% v 12% $p<0.001$)

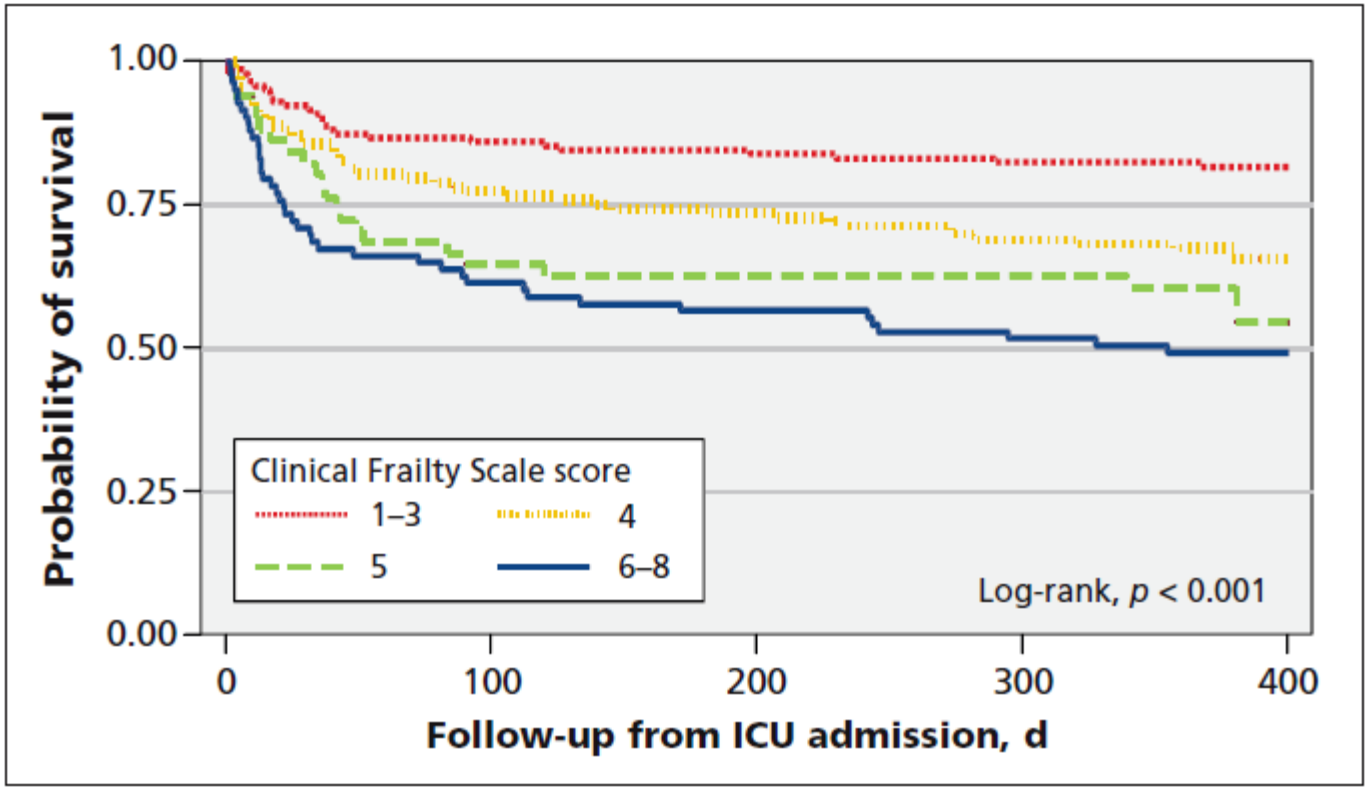

Probability of survival
1.00
0.75
0.50
0.25
0.00
0
100
200
300
400
Follow-up from ICU admission, d
Clinical Frailty Scale score
1–3
4
5
6–8
Log-rank, p < 0.001

**Table 4:** Summary of health-related quality of life

| Quality-of-life measure | Group; score, mean ± SD | | | *p* value* | | |
|---|---|---|---|---|---|---|
| | Frail | Not frail | General population† | Frail v. not frail | Frail v. general population | Not frail v. general population |
| At 6 mo | *n* = 67 | *n* = 195 | | | | |
| EQ VAS | 52 ± 22 | 65 ± 19 | 79 ± 16 | < 0.001 | < 0.001 | < 0.001 |
| SF-12, physical health | 35 ± 9 | 37 ± 7 | 52 ± 9 | 0.1 | < 0.001 | < 0.001 |
| SF-12, mental health | 33 ± 7 | 39 ± 8 | 48 ± 11 | < 0.001 | < 0.001 | < 0.001 |
| At 12 mo | *n* = 59 | *n* = 170 | | | | |
| EQ VAS | 54 ± 23 | 68 ± 18 | 79 ± 16 | < 0.001 | < 0.001 | < 0.001 |
| SF-12, physical health | 35 ± 8 | 38 ± 7 | 52 ± 9 | 0.005 | < 0.001 | < 0.001 |
| SF-12, mental health | 34 ± 7 | 39 ± 8 | 48 ± 11 | < 0.001 | < 0.001 | < 0.001 |

Note: EQ VAS = EuroQol visual analogue scale, SD = standard deviation, SF-12 = 12-item Short-Form Health Survey.
**t* test.
†Normative EQ VAS and SF-12 data for a random sample of 4200 people in the general population of Alberta.[22]

**Table 3:** Clinical outcomes, by frailty status

| Outcome | Group; no. (%) of patients* | | Association, OR (95% CI) or difference in medians (*p* value†) |
|---|---|---|---|
| | Frail *n* = 138 | Not frail *n* = 283 | |
| Adverse event‡ | 54 (39.1) | 83 (29.3) | 1.54 (1.01–2.37) |
| Death | | | |
| In ICU | 16 (11.6) | 27 (9.5) | 1.37 (0.72–2.62) |
| In hospital | 44 (31.9) | 45 (15.9) | 1.81 (1.09–3.01) |
| Duration of stay, d, median (IQR) | | | |
| In ICU | 7 (4–13) | 6 (3–10) | 1 d (0.02) |
| In hospital | 30 (10–64) | 18 (10–40) | 12 d (0.02) |
| Discharge disposition§ | *n* = 91 | *n* = 235 | |
| Home, living independently | 20 (22.0) | 104 (44.3) | 0.35 (0.20–0.61) |
| Home, living with help | 33 (36.3) | 58 (24.7) | 1.67 (1.00–2.81) |
| Other¶ | 38 (41.8) | 73 (31.1) | 1.51 (0.92–2.48) |
| Discharged newly dependent** | 24 (70.6) | 96 (51.6) | 2.25 (1.03–4.89) |
| Hospital readmission§ | 51 (56.0) | 92 (39.1) | 1.98 (1.22–3.23) |

# So Far

- Catastrophic loss of function is considered by some an outcome worse than death
- Severe Critical Illness imposes a significant burden of disease
  - This may include changes to the level of dependency
  - Pre-existing Frailty and comorbidity are associated with worse outcomes
- Whilst we can (sort of)predict population results individual outcomes are much harder
- Outcomes are improving
- Risk can be minimised by preparation

**Table 2** Inpatient preferences regarding medical decisions

| Preferences | Strongly agree N (%) | Agree N (%) | Disagree N (%) | Strongly disagree N (%) |
|---|---|---|---|---|
| I prefer that my doctor offers me choices and asks my opinion. | 7089 (87) | 778 (10) | 182 (2) | 128 (2) |
| I prefer to leave decisions about my medical care up to my doctor. | 2768 (34) | 2694 (33) | 1496 (18) | 1190 (15) |

**97% prefer doctor offers them choices**

67% prefer doctor makes decision about medical care

Predictors of hospitalised patients' preferences for physician-directed medical decision-making

Grace S Chung,1 Ryan E Lawrence,2 Farr A Curlin,3 Vineet Arora,3 David O Meltzer

J Med Ethics 2012;38:77e82.

**Table 2** Inpatient preferences regarding medical decisions

| Preferences | Strongly agree N (%) | Agree N (%) | Disagree N (%) | Strongly disagree N (%) |
|---|---|---|---|---|
| I prefer that my doctor offers me choices and asks my opinion. | 7089 (87) | 778 (10) | 182 (2) | 128 (2) |
| I prefer to leave decisions about my medical care up to my doctor. | 2768 (34) | 2694 (33) | 1496 (18) | 1190 (15) |

97% prefer doctor offers them choices

**67% prefer doctor makes decision about medical care**

Predictors of hospitalised patients' preferences for physician-directed medical decision-making

Grace S Chung,1 Ryan E Lawrence,2 Farr A Curlin,3 Vineet Arora,3 David O Meltzer

J Med Ethics 2012;38:77e82.

# Scenario

- An 80-year-old nursing home resident has a colon mass
- Scheduled for a colectomy.
- Has he been told that

Finlayson E, Zhao S, Boscardin WJ, Fries BE, Landefeld CS, Dudley RA. Functional status after colon cancer surgery in elderly nursing home residents. J Am Geriatr Soc 2012;60:967-73.

# Scenario

- An 80-year-old nursing home resident has a colon mass
- Scheduled for a colectomy.
- Has he been told that
  - 30% of elderly nursing home patients who undergo colectomy die within 3 months after the surgery

Finlayson E, Zhao S, Boscardin WJ, Fries BE, Landefeld CS, Dudley RA. Functional status after colon cancer surgery in elderly nursing home residents. J Am Geriatr Soc 2012;60:967-73.

# Scenario

- An 80-year-old nursing home resident has a colon mass
- Scheduled for a colectomy.
- Has he been told that
  - 30% of elderly nursing home patients who undergo colectomy die within 3 months after the surgery
  - 40% of the survivors have a significant decline in functional status

Finlayson E, Zhao S, Boscardin WJ, Fries BE, Landefeld CS, Dudley RA. Functional status after colon cancer surgery in elderly nursing home residents. J Am Geriatr Soc 2012;60:967-73.

# Scenario

- An 80-year-old nursing home resident has a colon mass
- Scheduled for a colectomy.
- Has he been told that
  - 30% of elderly nursing home patients who undergo colectomy die within 3 months after the surgery
  - 40% of the survivors have a significant decline in functional status
  - 12 months after surgery
    - Half the patients have died and
    - Half survivors have a sustained functional decline

Finlayson E, Zhao S, Boscardin WJ, Fries BE, Landefeld CS, Dudley RA. Functional status after colon cancer surgery in elderly nursing home residents. J Am Geriatr Soc 2012;60:967-73.

# Time Limited trial

- Described by Quill and Holloway JAMA 2011
- Meeting between the care-team, the patient, and the patient's family, if appropriate
- Define the patient's acute problem and the patient's overall prognosis
- Clarify the patient's goals and priorities;
- Identify objective markers for improvement or deterioration;
- Suggest a time frame, ranging from a few days to a month or more, for re-evaluation of the patient's status
- Define potential actions to take at the end of the trial

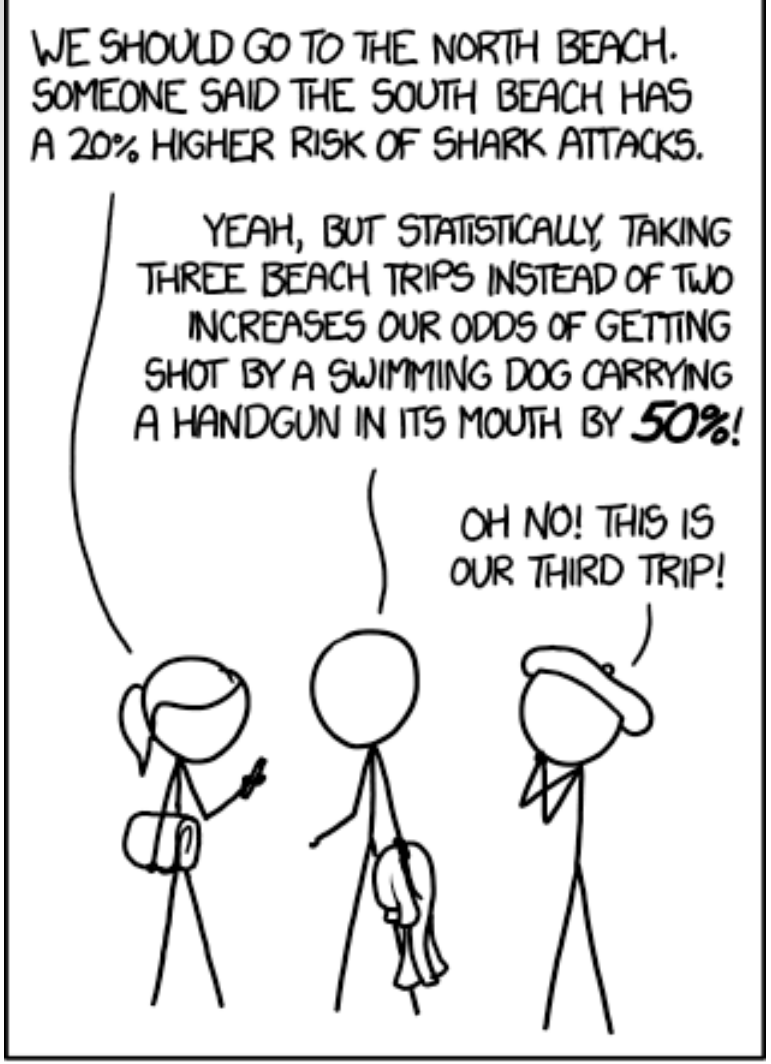
# Perception of risk and value may vary

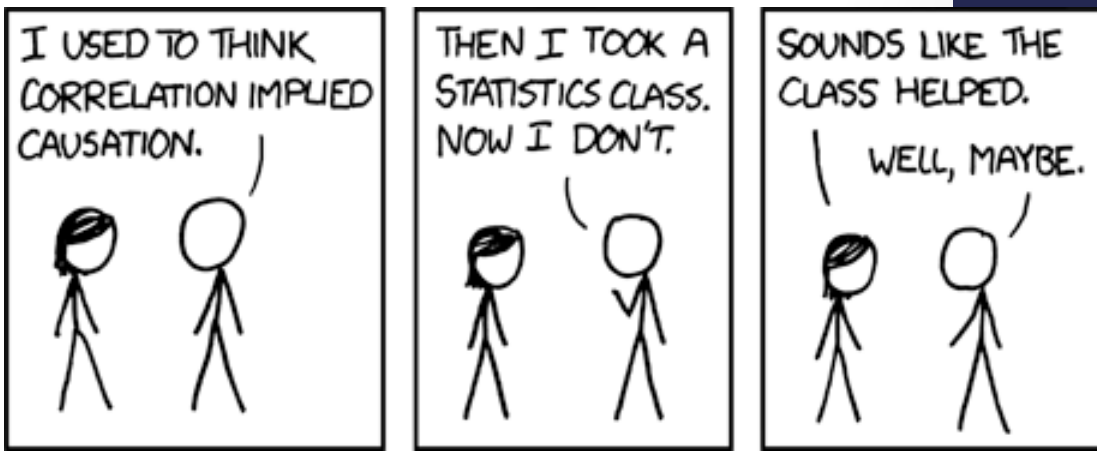
# Discussion with Patients

- Is Challenging
- Not formally taught in Medical Schools or many specialty programs
- FCICM only as part of organ donation
- Takes time
- Improves with practice

# Consent and Risk

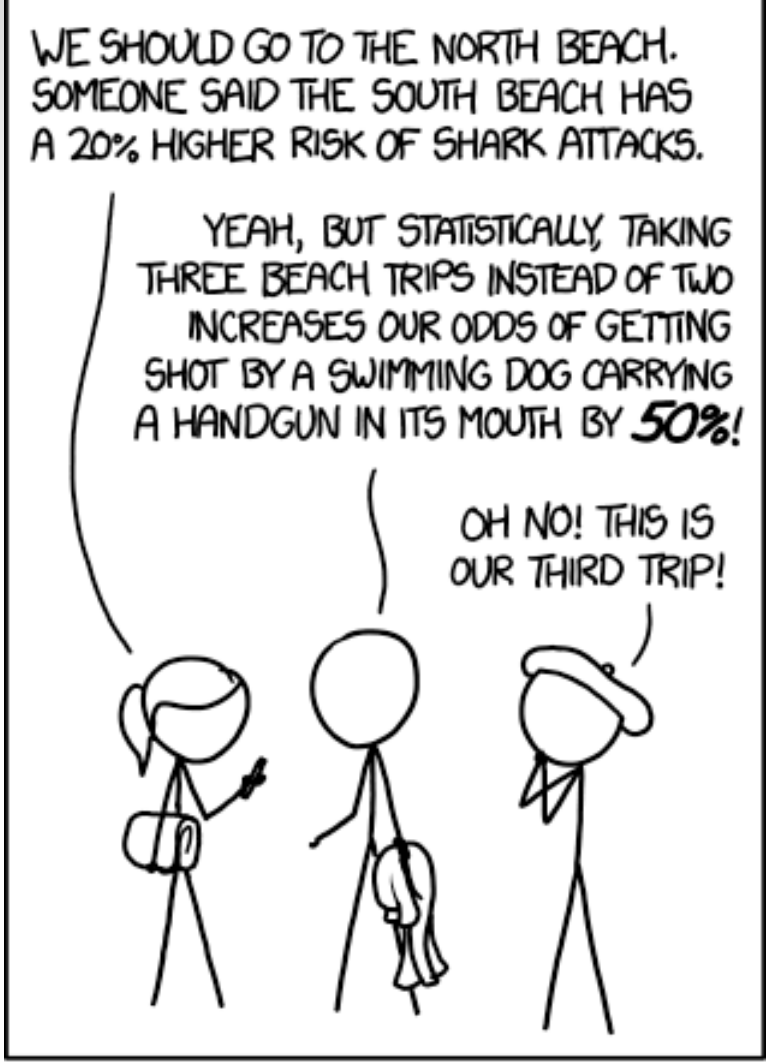
- Patient are often scared
- Understanding risk is hard
- Try to understand how the patient and family view possible outcomes
- Seek consensus with colleagues
- Treatment courses can be re-evaluated
- Acting in good faith in accordance with the patients wishes is ethically and legally defensible

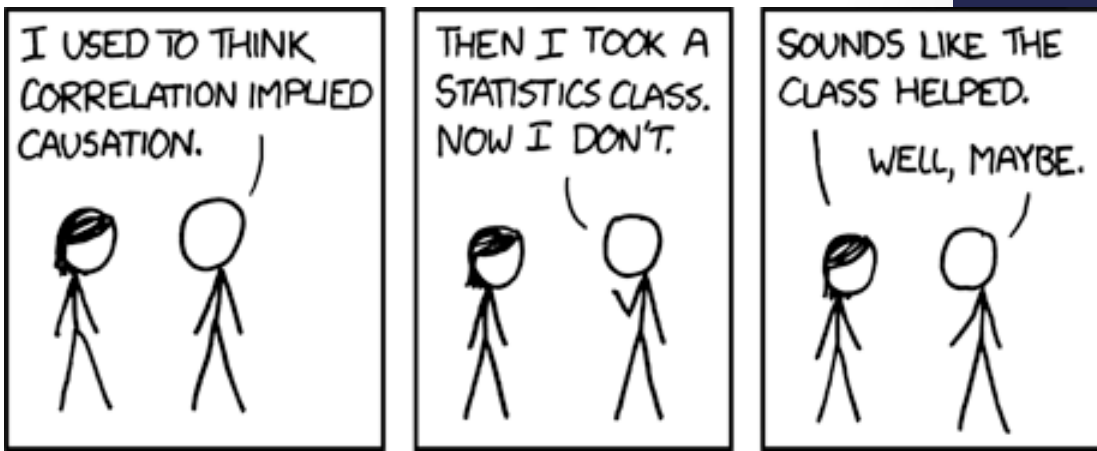


# Consent and Risk

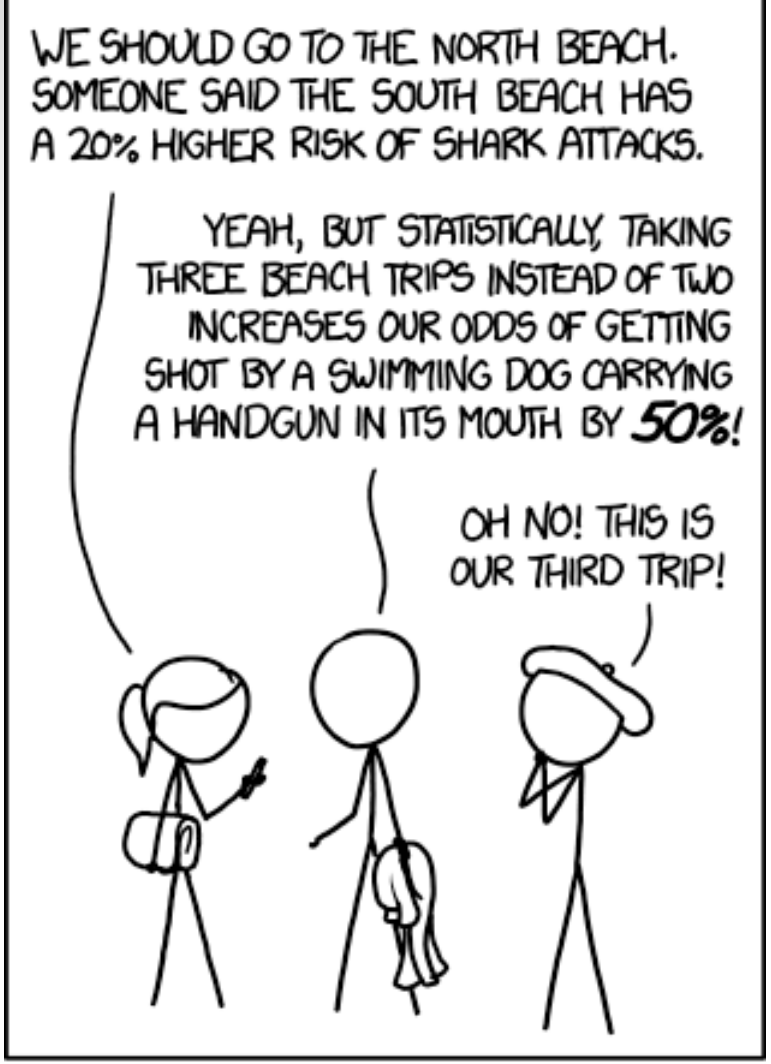
- Patient are often scared
- Understanding risk is hard
- Try to understand how the patient and family view possible outcomes
- Seek consensus with colleagues
- Treatment courses can be re-evaluated
- Acting in good faith in accordance with the patients wishes is ethically and legally defensible

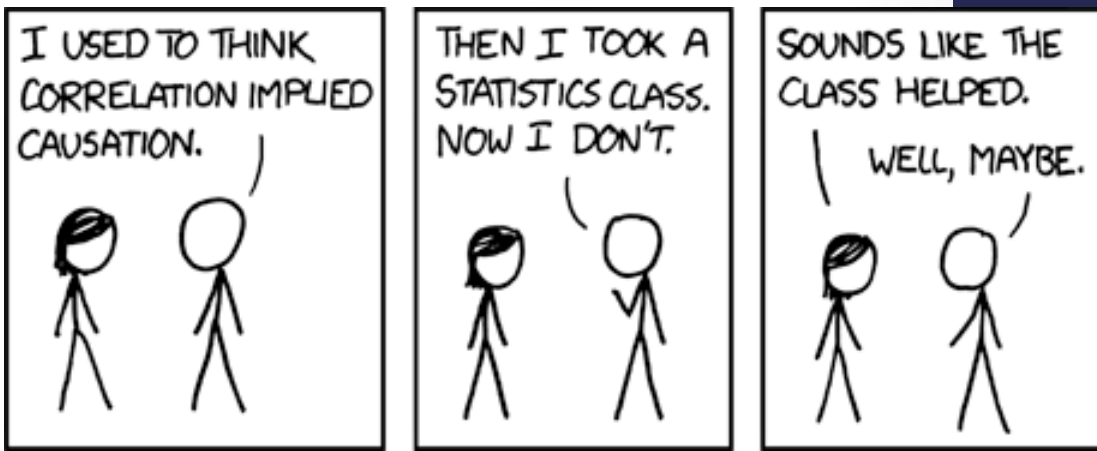


# Consent and Risk

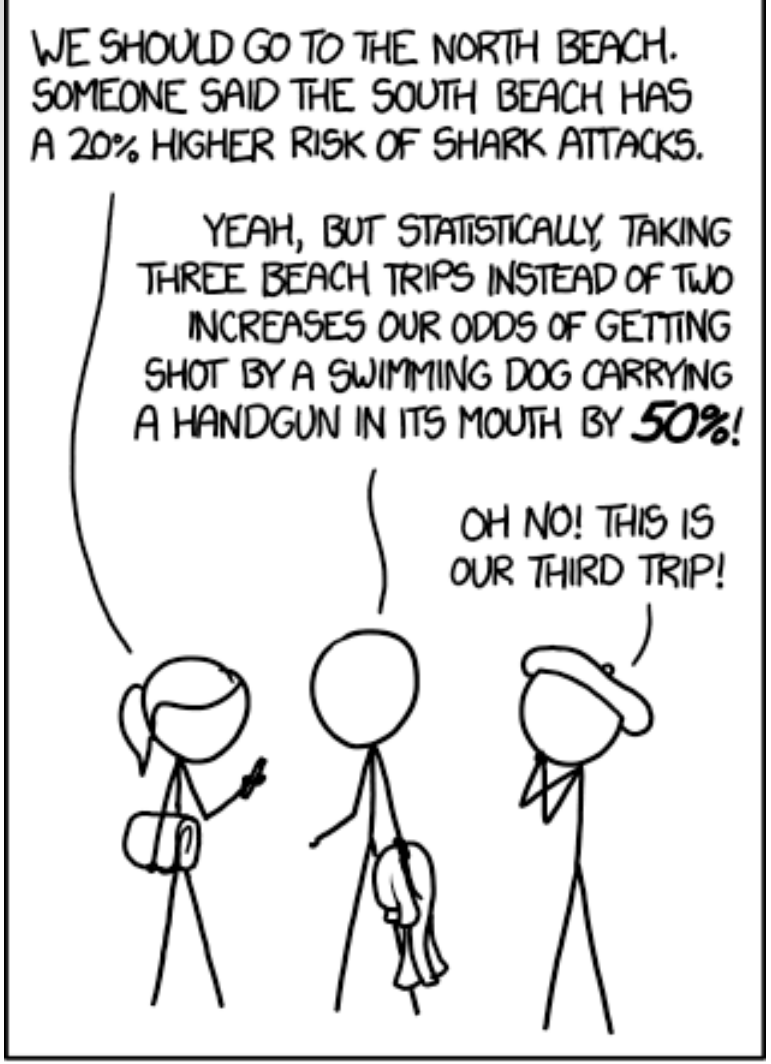
- Patient are often scared
- Understanding risk is hard
- Try to understand how the patient and family view possible outcomes
- Seek consensus with colleagues
- Treatment courses can be re-evaluated
- Acting in good faith in accordance with the patients wishes is ethically and legally defensible



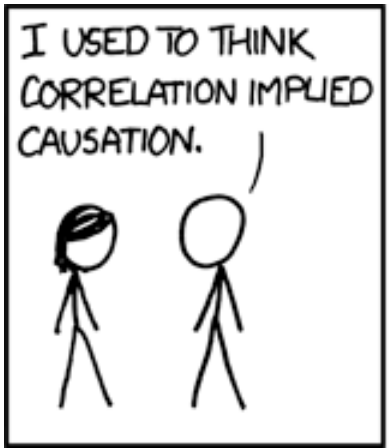



# Consent and Risk

- Patient are often scared
- Understanding risk is hard
- Try to understand how the patient and family view possible outcomes
- Seek consensus with colleagues
- Treatment courses can be re-evaluated
- Acting in good faith in accordance with the patients wishes is ethically and legally defensible



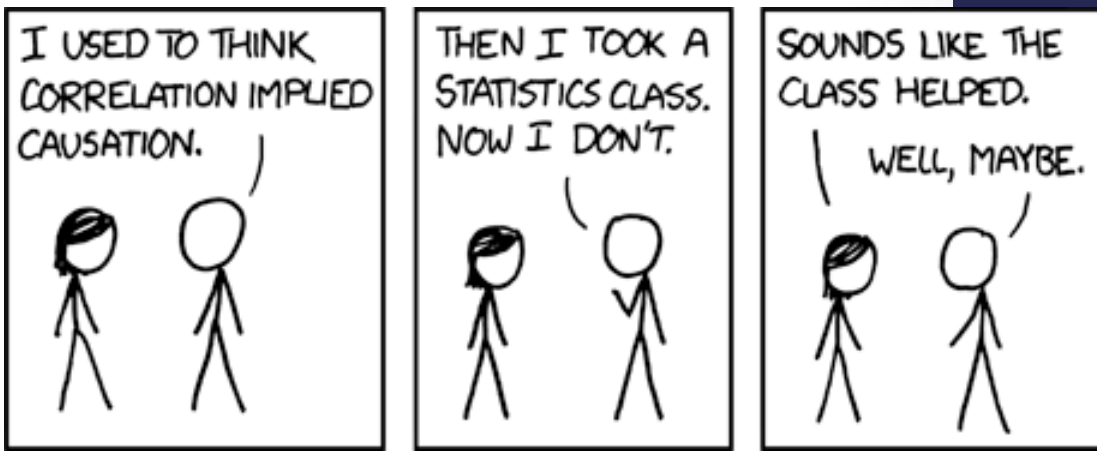

REMINDER: A 50% INCREASE IN A TINY RISK IS *STILL TINY.*





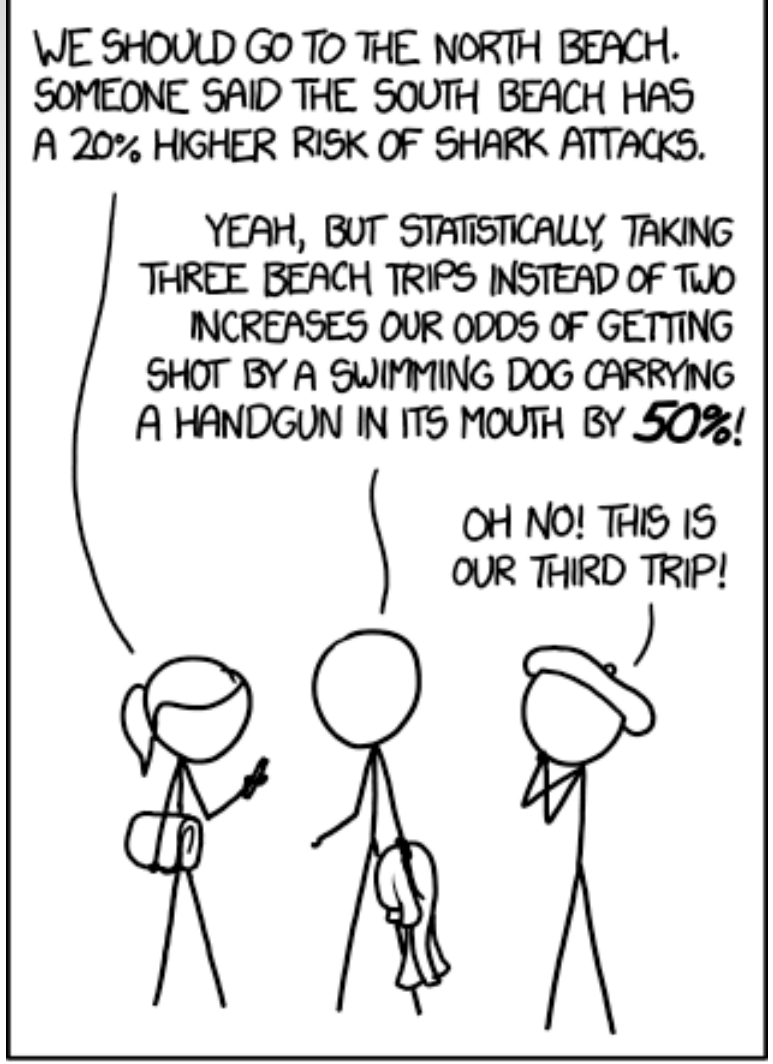
# Consent and Risk

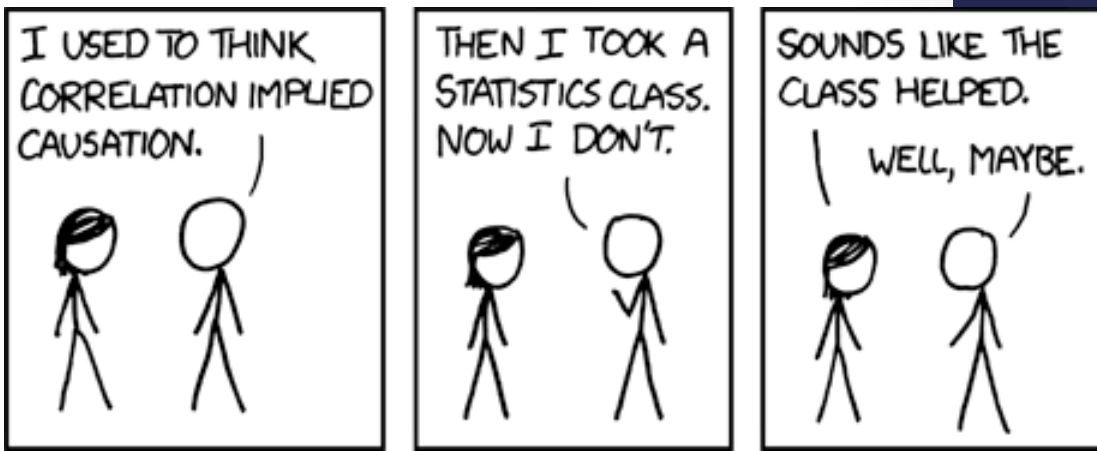
- Patient are often scared
- Understanding risk is hard
- Try to understand how the patient and family view possible outcomes
- Seek consensus with colleagues
- Treatment courses can be re-evaluated
- Acting in good faith in accordance with the patients wishes is ethically and legally defensible

# Consent and Risk

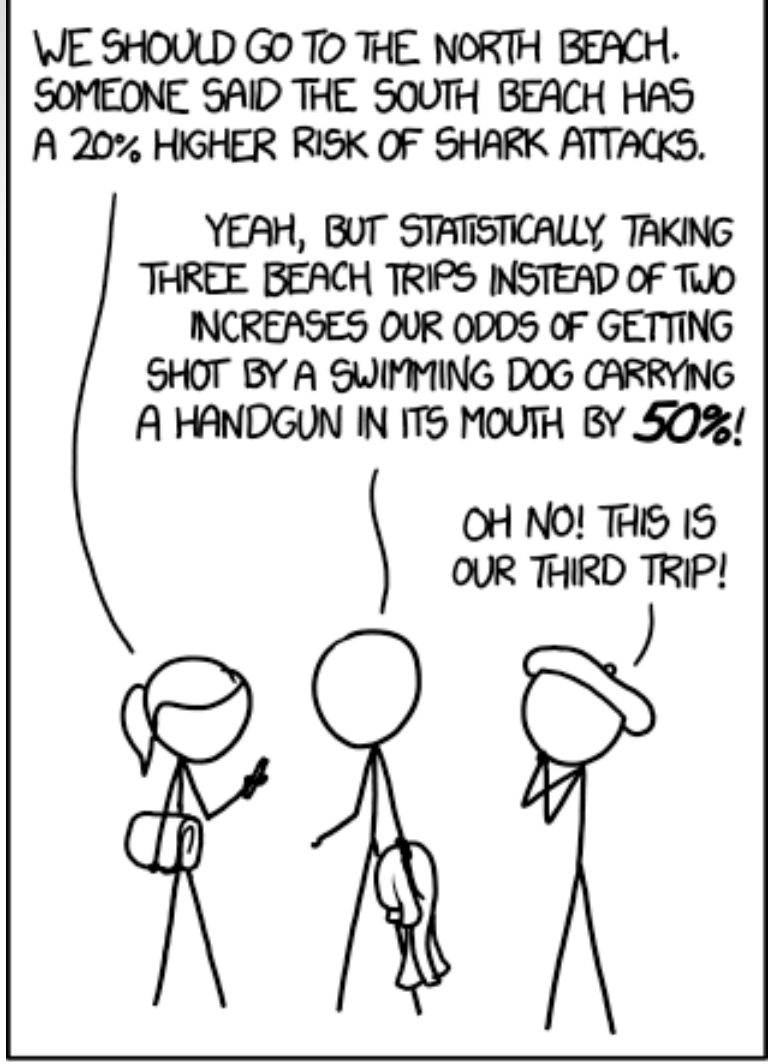
- Patient are often scared
- Understanding risk is hard
- Try to understand how the patient and family view possible outcomes
- Seek consensus with colleagues
- Treatment courses can be re-evaluated
- Acting in good faith in accordance with the patients wishes is ethically and legally defensible

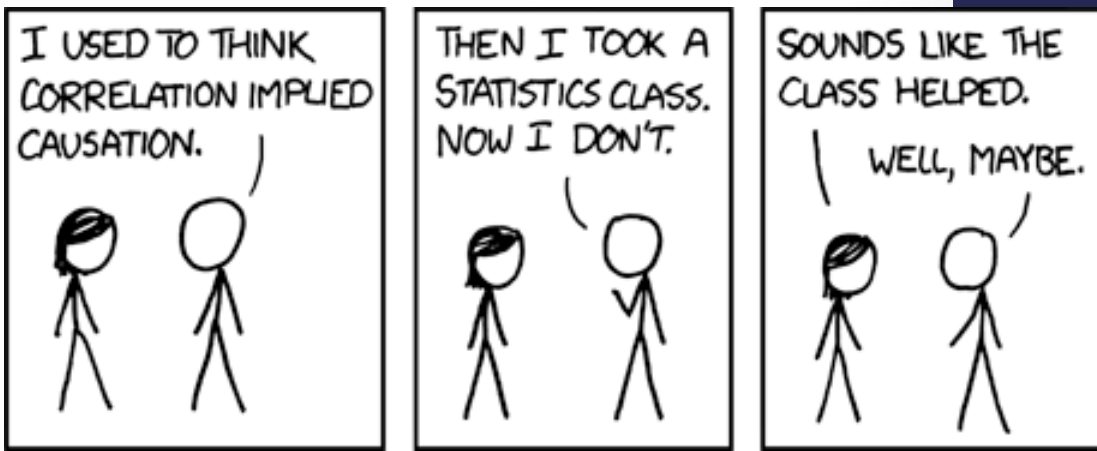


# Consent and Risk

- Patient are often scared
- Understanding risk is hard
- Try to understand how the patient and family view possible outcomes
- Seek consensus with colleagues
- Treatment courses can be re-evaluated
- Acting in good faith in accordance with the patients wishes is ethically and legally defensible



Annals of Internal Medicine | PERSPECTIVE

# Discussing Treatment Preferences With Patients Who Want "Everything"

Timothy E. Quill, MD; Robert Arnold, MD; and Anthony L. Back, MD

Ann Intern Med. 2009;151:345-349

- Understand what "everything" means to the patient
- Propose a Philosophy of Treatment
- Propose a Plan of Treatment
- Support Emotional Responses
- Negotiate Disagreements
- Use Harm-Reduction for continued requests for burdensome treatments that are unlikely to work


**ANZICS Statement on Care and Decision-Making at the End of Life for the Critically Ill**

**Edition 1.0 2014**

**http://www.anzics.com.au/Downloads/ANZICSStatementonCareandDecision-MakingattheEndofLifefortheCriticallyIll.pdf**

# Conclusions 1

- Important role of prevention and early detection of problems
- Not following known simple measures may be harmful
- The exact techniques are a moving target

# Conclusions 2

- Severe critical illness leaves a significant burden of disease
- There is a range of opinions on what burden of disease is desirable outcome
- The best way to determine what outcomes are acceptable is to ask
- These conversations are difficult

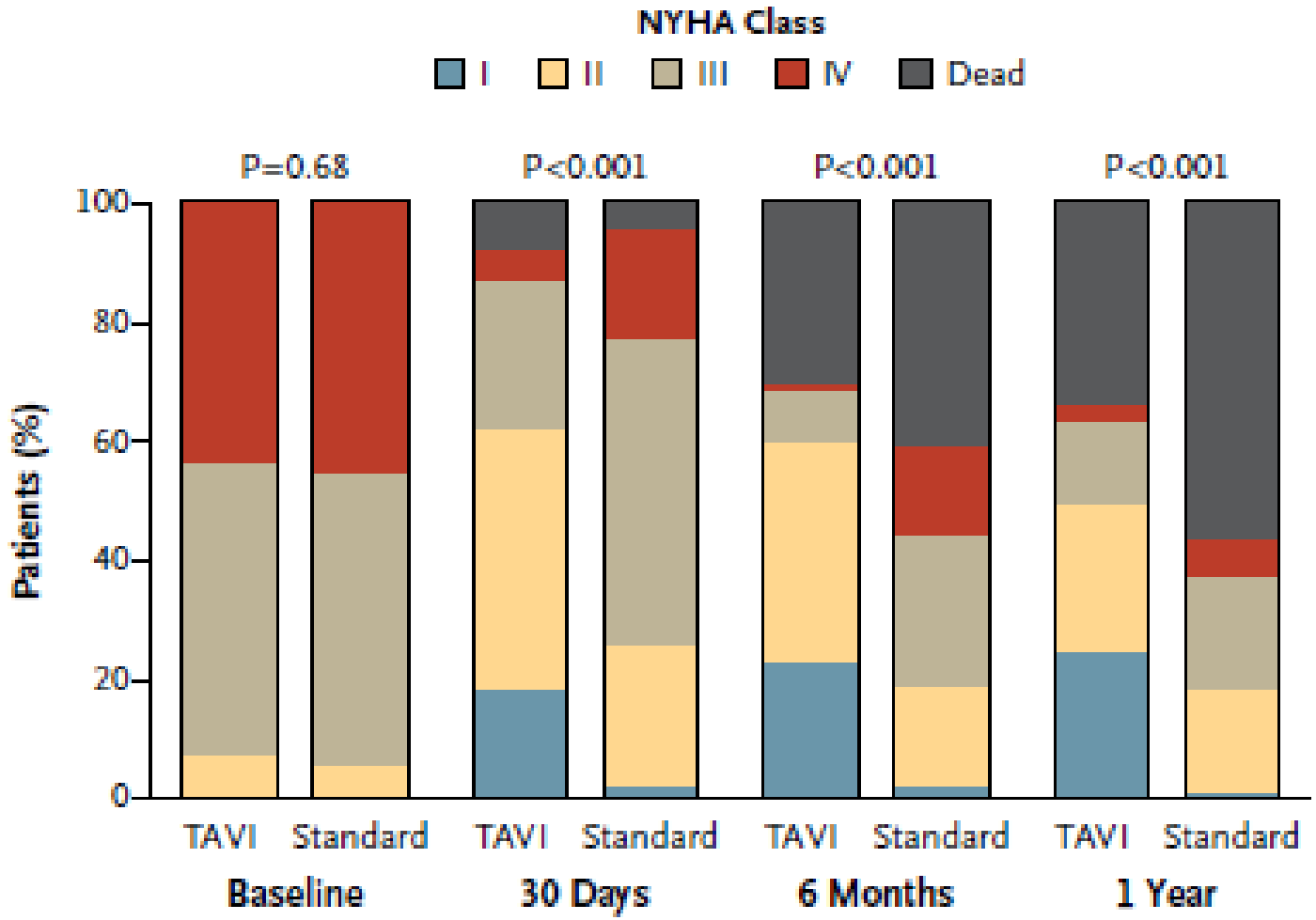


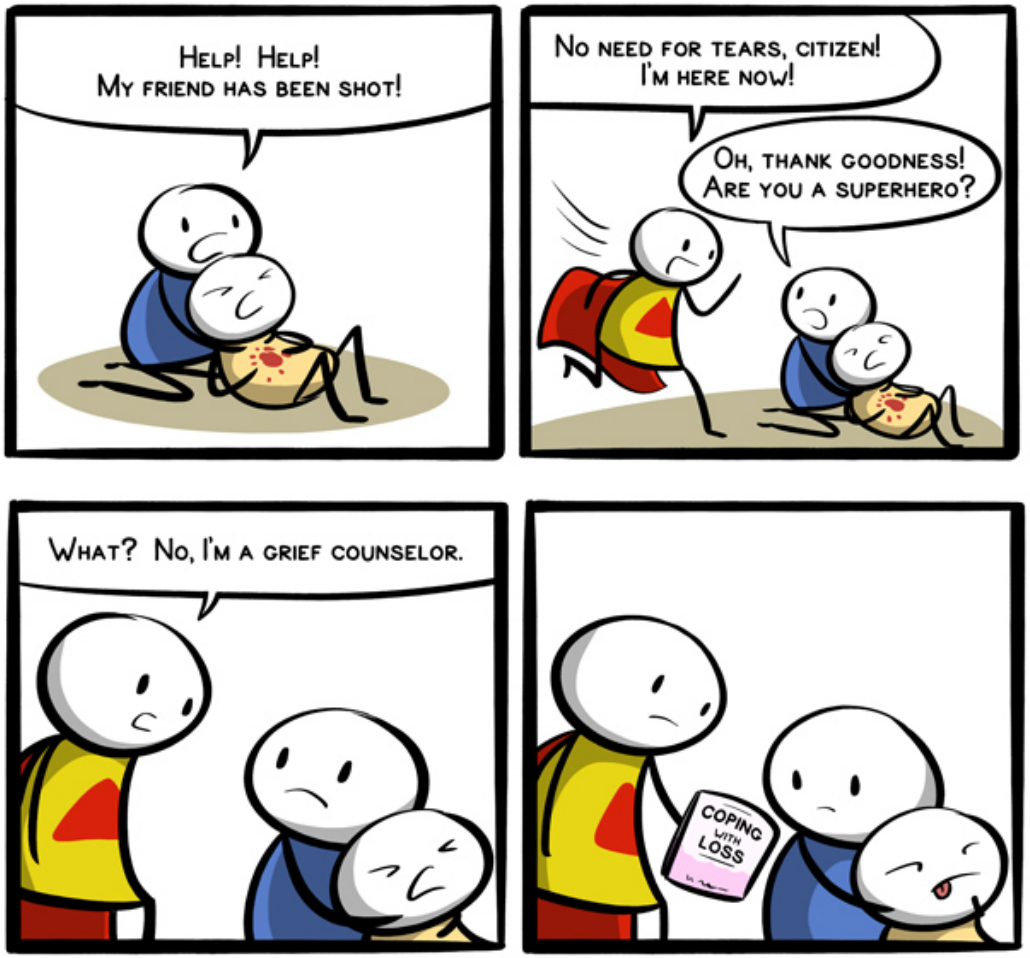

**Figure 3. Symptom Status over Time.**

Symptom status according to New York Heart Association (NYHA) class is shown at baseline and at 30 days, 6 months, and 1 year among patients randomly assigned to transcatheter aortic-valve implantation (TAVI) or standard therapy (Standard).

PARTNER trial NEJM 2010

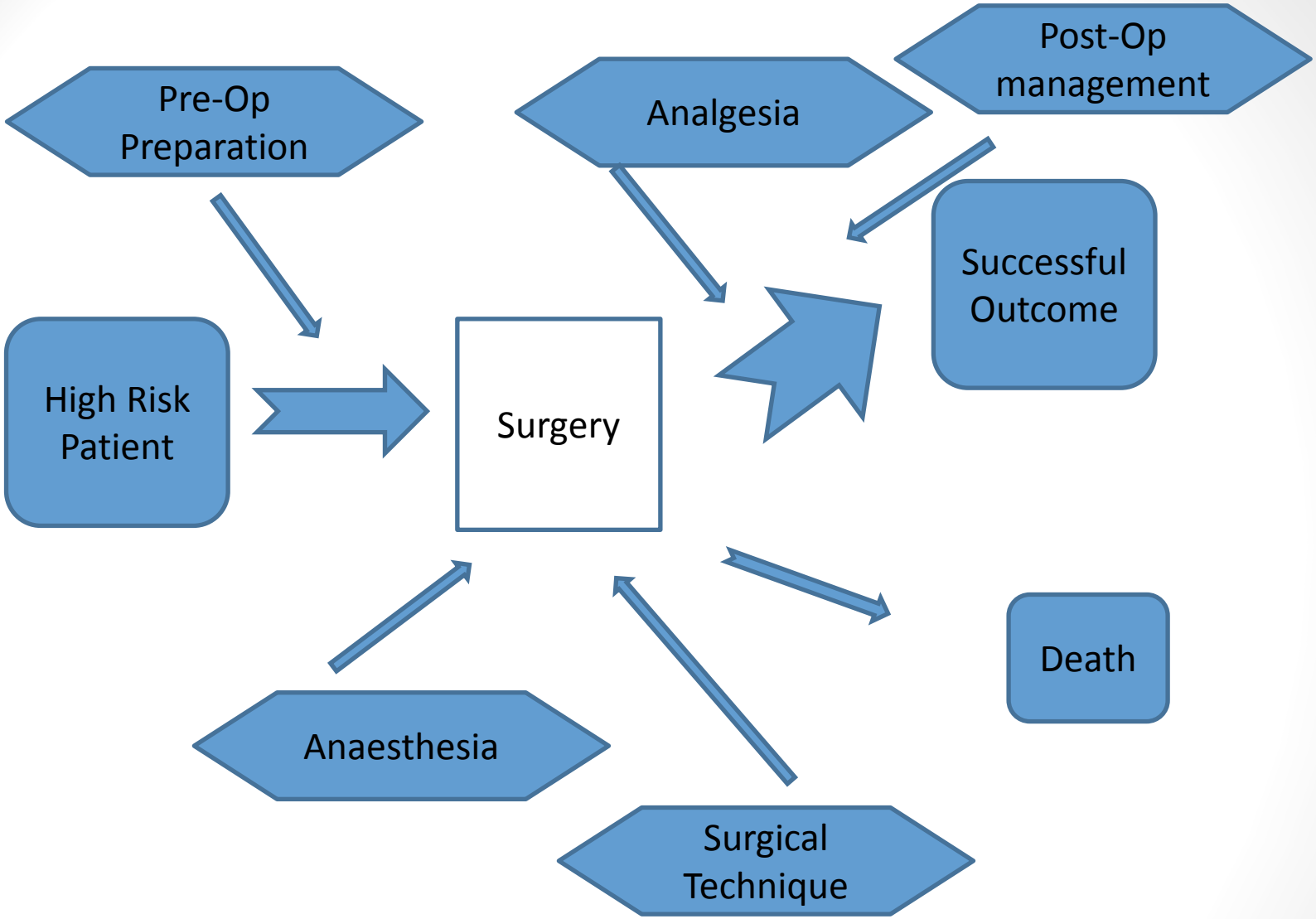
# Local Data

- ANZICS CORE data
- Looking at patients with long ICU stay greater than 14 days
- This group represents costs around 15 million year for about 120 patients
- RAH Patients admitted direct from OR to ICU
- 32% of long stay patients
- Over 40 patients a year
- Over 1200 bed days year



## Strategy for Discussing a Time-Limited Trial (TLT)

- Preparation
  - Select a main medical communicator and key clinicians to involve
  - Identify key patient and family decision maker(s)
  - Seek consensus among medical teams about clinical condition and prognosis
  - Identify clear clinical markers of improvement or deterioration
- Beginning of the Family Meeting
  - Each person should introduce himself or herself, including how he or she relates to the patient
  - Review purpose of meeting
  - Solicit family members' views of patient's situation
  - Reconcile clinicians' understanding with that of the patient or family
- Consider a TLT
  - Propose key components of TLT
  - Discuss how progress will be measured and communicated
  - Negotiate time frame for re-evaluation
  - Schedule a follow-up meeting
- Follow up at Scheduled Intervals Depending on the TLT
  - Regularly inform family about progress
  - If treatment is working, propose next steps
  - If treatment is not working, next steps might include
    - negotiating a different TLT
    - proposing a plan for treatment limitation


Pre-Op Preparation
Analgesia
Post-Op management
Successful Outcome
High Risk Patient
Surgery
Death
Anaesthesia
Surgical Technique