

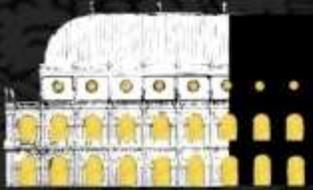
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LA RIVOLUZIONE DEI SISTEMI



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Misurare, dialogare, decidere e comunicare: la clinica del post ROSC

Luca Cabrini

Università degli Studi dell'Insubria

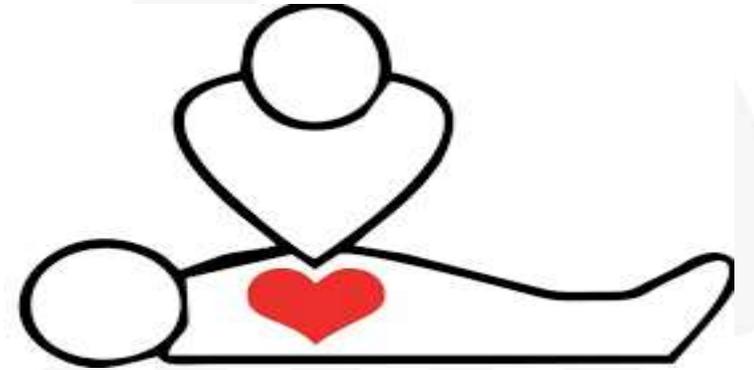
Anestesia e Rianimazione Neurochirurgica e Generale, Varese



Il mondo confortevole del BLS e dell'ALS: certezze, numeri

- Sequenze chiare
- Massaggio: 30
- Ventilazione: 2
- Minuti: 2
- Cause reversibili: 8
- Ecc.

VS il mondo incerto, sfocato, opinabile, conflittuale, ansiogeno del post ROSC



Sono passati 5 giorni dal ROSC

- Pz vigile. Non esegue. Flessione patologica allo stimolo doloroso, ma forse oggi localizza.
- Intubato, ventilato in modalità assistita con supporto modesto.
- Emodinamica stabile.
- Alla valutazione prognostica multimodale: elementi non univoci.



Predittori di esiti negativi e positivi & the gray zone

Prediction of poor neurological outcome in comatose survivors of cardiac arrest: a systematic review

Claudio Sandroni^{1,2}, Sonia D'Arrigo^{1*}, Sofia Cacciola¹, Cornelia W. E. Hoedemaekers³, Marlijn J. A. Kamps⁴

Conclusion: In comatose resuscitated patients, clinical, biochemical, neurophysiological, and radiological tests have a potential to predict poor neurological outcome with no false-positive predictions within the first week after CA. Guidelines should consider the methodological concerns and limited sensitivity for individual modalities. (PROSPERO

Prediction of good neurological outcome in comatose survivors of cardiac arrest: a systematic review

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Take-home message

In adult patients who are comatose after return of spontaneous circulation (ROSC), the following indices predict good neurological outcome (no, or mild to moderate neurological disability) with > 80% specificity and > 40% sensitivity in most studies:

- Specificità elevata, ma sensibilità piuttosto bassa.
- Inoltre: non patient-centered, basati su CPC e mRS.

ERC and ESICM guidelines 2021: post resuscitation care.

- <<(CPC, mRS, GOSE)... are **not** sufficiently sensitive to capture the problems that many of the survivors experience>>



Decidere cosa fare potrebbe essere problematico anche se sono presenti i predittori di esito...

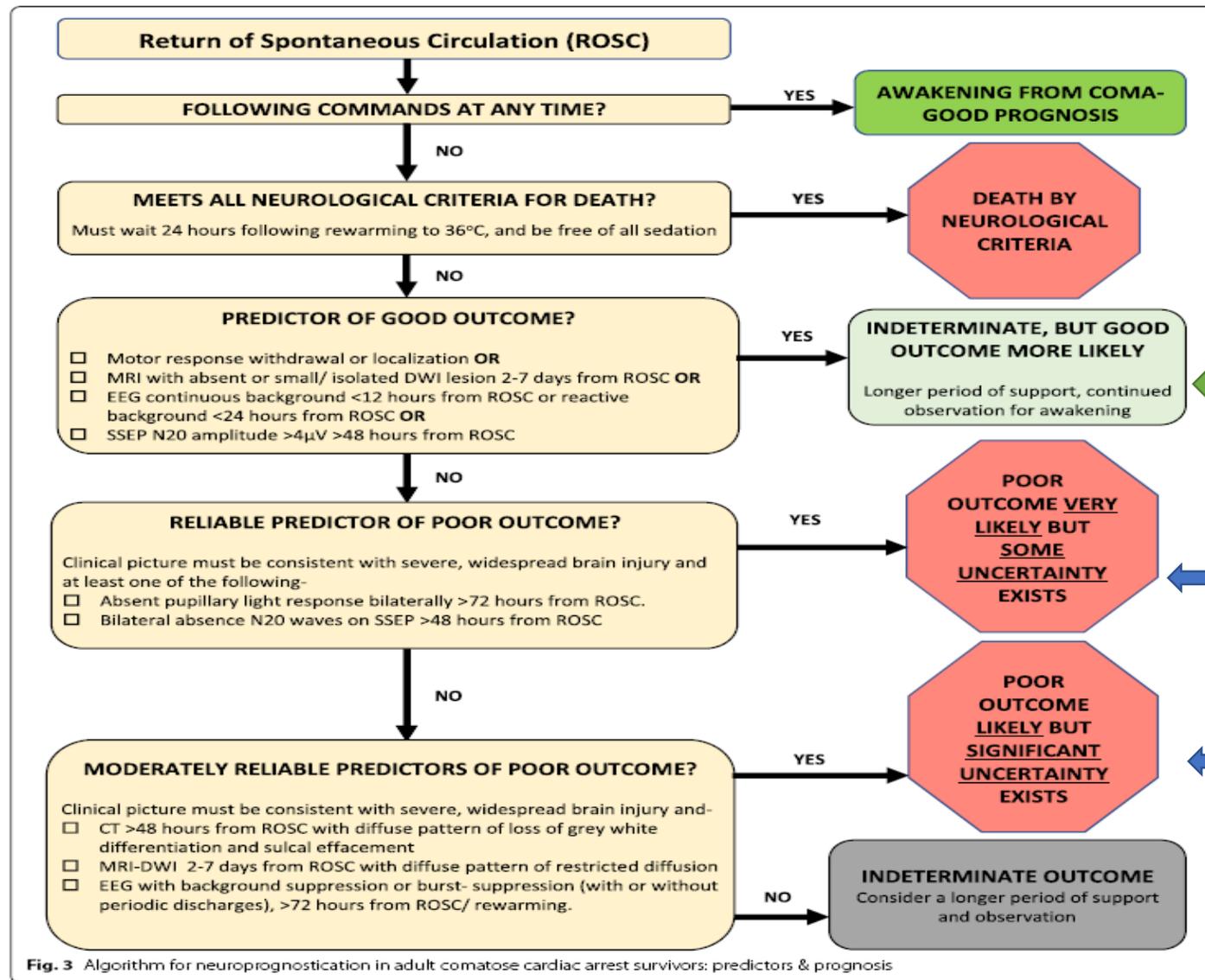


Fig. 3 Algorithm for neuroprognostication in adult comatose cardiac arrest survivors: predictors & prognosis

Guidelines for Neuroprognostication in Comatose Adult Survivors of Cardiac Arrest
Neurocrit Care (2023) 38:533–563
<https://doi.org/10.1007/s12028-023-01688-3>

Partiamo dalle basi. Qual è l'obiettivo condiviso?

- Il solito: fare il meglio per il paziente.

LG ILCOR 2020: <<Clinician(s) must take care to ensure that **any decision is in the individual's best interest**>>.

Solo questo. Solo questo.



Cos'è un poor outcome per il pz?

- LG ILCOR 2020 (Ethics of resuscitation and end of life decisions): <<defining an unfavourable outcome is challenging. The cut-off of a CPC 2 may translate to a spectrum of functional outcomes. Moreover, **the value of an outcome to an individual will likely be specific to that person**>>.

European Resuscitation Council Guidelines 2021: Ethics of resuscitation and end of life decisions

Epidemiological data provides information on outcome at the population level.^{217,285,286} Outcome for an individual is influenced by patient-level factors such as age, co-morbid status, and aetiology of cardiac arrest. As such, predicting outcome at an individual patient level is challenging. Key challenges for clinicians are effective communication of uncertainty about the likely outcome if an individual has a cardiac arrest, and to ensure that their personal values and preferences do not influence the patient.

Sono passati dieci giorni dal ROSC

- Neurologicamente invariato. Respiro quasi autonomo. Stabile il resto.
- Devo fare la tracheostomia e la PEG?
- **Ci sono esami da fare adesso che possono risolvere i dubbi?**

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NEUROCRITICAL
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Prediction models

Out of hospital cardiac arrest (OHCA): There is insufficient evidence for a recommendation

Cardiac Arrest Hospital Prognosis (CAHP): There is insufficient evidence for a recommendation

When counseling family members or surrogates of comatose survivors of in-hospital cardiac arrest, we suggest the Good Outcome Following Attempted Resuscitation (GOFAR) clinical prediction model alone not be considered a reliable predictor of poor functional outcome assessed at 3 months or later (weak recommendation; moderate quality evidence)

Eddai. Possibile?

PREDICTING LONG-TERM COGNITIVE IMPAIRMENTS IN SURVIVORS AFTER CARDIAC ARREST: A SYSTEMATIC REVIEW

Astrid GLIMMERVEEN, MSc^{1,2}, Marlous VERHULST, MSc^{1,2}, Jeanine VERBUNT, MD, PhD^{3,4}, Caroline van HEUGTEN, PhD⁵⁻⁷ and Jeannette HOFMEIJER, MD, PhD^{1,2}

[J Rehabil Med 2023; 55: jrm00368](#)

In conclusion, despite unequivocal recommendations on early screening for identification of patients at risk of long-term cognitive impairments after cardiac arrest, evidence on the value of scores from screening instruments is scarce. Bedside cognitive screening holds potential to contribute, but needs prospective validation. Evidence is scarce for S-100B levels and lacking for measures derived from EEG and MRI.



Quindi:

- Predire in modo affidabile e condiviso l'esito del singolo paziente che resta in coma è **difficile**.
- Capire in modo affidabile e condiviso se l'outcome più probabile sarebbe accettabile per quel singolo paziente è **difficile**.



Shared decision making, utopia o opportunità reale?

“a collaborative process that allows patients, or their surrogates, and clinicians to make healthcare decisions together, taking into account the best scientific evidence available, as well as the patient’s values, goals, and preferences.”⁸⁴ Several SDM

- Semplicemente un dovere a cui non sottrarsi. Un dovere che ha luogo in uno spazio e in un tempo specifici.
- un processo che dipende molto dalle relazioni nello staff e con i familiari.
- Un dovere faticoso. Un dovere magnifico. Un’arte.

Un dovere che ha degli ingredienti principali:

- I dati clinici
- I valori in astratto
- La legge – e le regole aziendali
- Io
- Il resto dello staff
- Il paziente, i parenti



I dati clinici risolvono il problema?

Prognostication and shared decision making in neurocritical care

Kelsey Goostrey,¹ Susanne Muehlschlegel^{1,2,3}

: [BMJ 2022;377:e060154](#)

Uncertainty

Uncertainty is perhaps the greatest challenge of prognosticating in the neuroICU and is represented by the confidence intervals around the probability of a predicted outcome. It is always inherently present. For example, outliers exist even in large population based studies that have an unexpectedly good or poor outcome. A recently described taxonomy of uncertainty in neurocritical care included several types of uncertainty: diagnostic, prognostic, experiential, moral, value, and ethical.⁴⁶

Guidelines

No guidelines exist on prognostication or SDM in neurological emergencies. A recent gap analysis



Ci sono valori universalmente condivisi?

The Durban World Congress Ethics Round Table IV: Health care professional end-of-life decision making

Gavin M. Joynt, MBBCh, FFA(SA)(Crit Care), FHKCA (IC), FCICM ^{a,*},
 Jeffrey Lipman, MBBCh, DA, FFA(SA)(Crit Care), FCICM, MD ^b, Christiane Hartog, MD ^c, Bertrand Guidet, MD ^d,
 Fathima Paruk, MBBCh ^e, Charles Feldman, MBBCh, DSc, PhD, FRCP, FCP (SA) ^f,
 Niranjana Kissoon, MD ^g, Charles L. Sprung, MD, MCCM, FCCP ^h

Journal of Critical Care 30 (2015) 224–230

Statements of general principles underlying the WD and WH of life support

	Principles—justification for triggering WH/WD	Agree	Neutral	Disagree	All
Principles justifying WH/WD					
10A	Patient's best interest not served by LST	19	0	3	22
10B	Insufficient net medical benefit gained by LST	21	1	0	22
The above conditions are met when:					
10C.1	With LST <3-month survival	12	3	7	22
10C.2	With LST <1-month survival	14	5	3	22
10C.3	With LST <2-week survival	17	2	3	22
10C.4	With LST less than a few days' survival	21	1	0	22
10C.5	ICU burden outweighs likely length of time of survival	18	3	1	22
10C.6	ICU burden outweighs likely future quality of life	17	4	1	22

Participant's reported likelihood of using specific practical triggers that may contribute to the decision to discuss WH/WD LST

Practical triggers for WH/WD decisions	Always triggers	Usually triggers	Never triggers	All
11 Known advance directive	14	7	0	21
12 Family request	16	4	2	22
13 Irreversible condition	10	9	3	22
14 Unsurvivable injury	18	4	0	22
15 Brain injury—unclear outcome	8	11	3	22
16 Brain injury—poor outcome and dependent	10	7	5	22
17 Brain injury—minimally conscious state	17	3	2	22
18 MOF—1-2 organs	0	6	16	22
19 MOF ≥ 3 organs for ≥ 3 d	4	9	9	22
20 MOF ≥ 3 organs for ≥ 7 d	7	12	3	22
21 Nonbeneficial therapy	14	7	0	21
22 Poor ICU survival	8	14	0	22
23 Terminal illness	15	3	4	22
24 Poor quality of life	4	14	4	22
25 Severe illness	1	6	15	22
26 Age >80 y	3	7	11	21
27 Are there universally accepted triggers?	Yes 14	No 8		All 22
28 Should we use triggers as above?	Strongly agree 18	Neutral 1	Strongly disagree 2	Total 21

MOF, multiple organ failure.





Cos'è “futile”, o “non benefica”,
o inappropriato”?

- “Interventions should be considered inappropriate when there is **no reasonable expectation** that the patient will improve sufficiently **to survive outside the acute care setting**, or when there is no reasonable expectation that the neurologic function will improve sufficiently **to allow the patient to perceive the benefits of treatment**”.

SCCM Ethics Committee, Crit Care Med 2016;44:1769-1774.

Quando un trattamento è inappropriato?

Nonbeneficial Treatment Canada: Definitions, Causes, and Potential Solutions From the Perspective of Healthcare Practitioners*

(*Crit Care Med* 2015; 43:270–281)

James Downar, MDCM, MHSc¹; John J. You, MD, MSc²; Sean M. Bagshaw, MD, MSc³



How Certain Should a Physician be About Mortality or Other Outcomes to Consider a Treatment to be NBT?

	%	n
90% (i.e., 1/10 chance that the treatment may be beneficial)	18.4	112
95% (i.e., 1/20 chance that the treatment may be beneficial)	21.7	132
99% (i.e., 1/100 chance that the treatment may be beneficial)	31.9	194
99.9% (i.e., 1/1,000 chance that the treatment may be beneficial)	10.3	63
>99.9% (i.e., <1/1,000 chance that the treatment may be beneficial)	5.6	34
I do not feel that you can ever be certain enough to consider further advanced curative/ life-prolonging treatments to be NBT	12.2	74



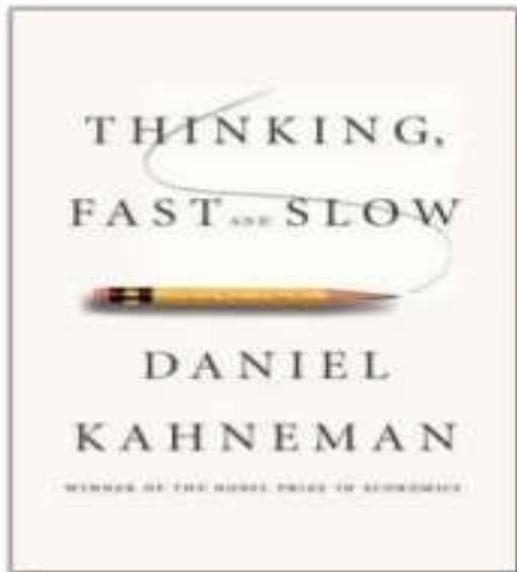
La Legge (219 – 2017)

- Art 2: **ostinazione medica (ex accanimento terapeutico)**

Nei casi di paziente con prognosi **infausta** a breve termine o di **imminenza** di morte, il medico deve astenersi da ogni ostinazione **irragionevole** nella somministrazione delle cure e dal ricorso a trattamenti **inutili o sproporzionati**.



E io? Le mie sicurezze?



- “L’illusione di avere capito il passato alimenta l’ulteriore illusione di poter prevedere e controllare il futuro. Queste illusioni sono confortanti. **Riducono l’ansia che proveremmo se permettessimo a noi stessi di riconoscere in pieno le incertezze dell’esistenza.**”
- “I veri esperti conoscono i limiti della loro conoscenza. Vi sono molti pseudoesperti i quali non si rendono minimamente conto di non sapere quello che fanno (l’illusione di validità) e che, in generale, **la sicurezza soggettiva è spesso troppo grande e troppo poco informativa.**”

Gli altri. Medici e infermieri del reparto e di altri reparti

- Le decisioni relative all'end-of-life in ICU sono comuni e difficili. Spesso generano conflitti, o fenomeni quali l'effetto cascata (per evitare i contrasti) o la polarizzazione (cercare i contrasti).

**Curiosità del giorno:
sapevate che si possono avere
opinioni differenti senza doversi
odiare?
Si chiama intelligenza.**

Davvero un problema frequente?

Prevalence and Factors of Intensive Care Unit Conflicts

The Conflicus Study

Élie Azoulay¹, Jean-François Timsit², Charles L. Sprung³, Marcio Soares⁴, Kateřina Rusinová⁵, Ariane Lafabrie¹,

Am J Respir Crit Care Med Vol 180. pp 853–860, 2009

main reported sources of conflict were general behaviors (Figure 2A) and end-of-life care (Figure 2B). Among general behaviors perceived as causing conflicts, the most common were personal animosity, mistrust, and poor communication within the ICU team. The main perceived sources of conflict related to end-of-life care were lack of psychological support, absence of unit-level meetings, and problems with the decision-making process.

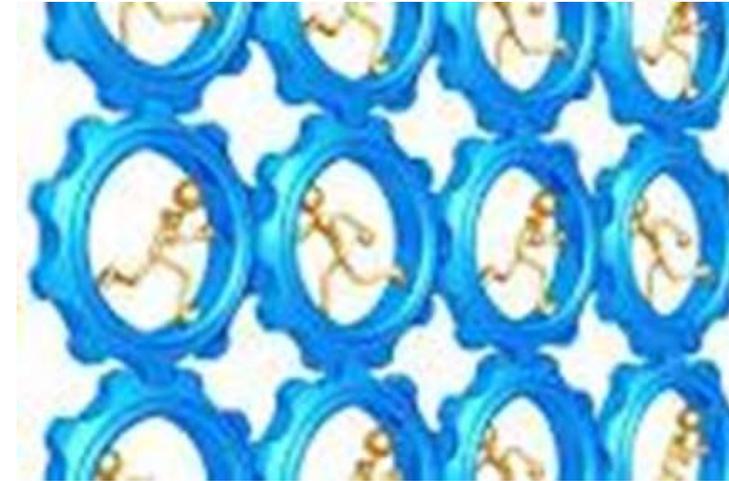
Teamwork elements

JOINT COMMISSION™
Journal ON QUALITY AND PATIENT SAFETY

The Role of Teamwork in
the Professional Education
of Physicians:
Current Status and Assessment
Recommendations

David P. Baker, Ph.D.
Eduardo Salas, Ph.D.
Heidi King, M.S., C.H.E.
James Batties, Ph.D.
Paul Barach, M.D., M.P.H.

April 2005 Volume 31 Number 4



Teamwork refers to the

Knowledge, skills and attitudes (KSA)

that facilitate a coordinated, adaptive, effective performance.

Knowledge, skills and attitudes

Team/Collective Orientation	Propensity to take other's behavior into account during group interaction and the belief in the importance of team goals over individual member's goals	<ul style="list-style-type: none"> ■ Taking into account alternative solutions provided by teammates and appraising that input to determine what is most correct ■ Increased task involvement, information sharing, strategizing, and participatory goal setting
Shared Mental Models	An organizing knowledge structure of the relationships between the task the team is engaged in and how the team members will interact	<ul style="list-style-type: none"> ■ Anticipating and predicting each other's needs ■ Identify changes in the team, task, or teammates and implicitly adjusting strategies as needed
Mutual Trust	The shared belief that team members will perform their roles and protect the interests of their teammates	<ul style="list-style-type: none"> ■ Information sharing ■ Willingness to admit mistakes and accept feedback



Cosa può aiutare?



- Bandire con gentilezza le certezze assolute
- Capacità di includere, di mediare le posizioni, o di cercare mediazione. Attenzione a non creare vincitori o sconfitti: tutti devono sentire le decisioni come un risultato comune
- Spesso il quadro si chiarisce nel tempo
- Documentare le decisioni
- Debriefing se possibile, almeno nei casi contrastati

Il paziente, la sua famiglia

Ricordiamoci l'obiettivo: comprendere i valori e le preferenze del paziente (ad es.: le DAT?).

- Creiamo una relazione, non un singolo episodio.
- Trasparenza, coerenza, empatia, pazienza, mediazione. Ascolto, ascolto, ascolto (VALUE).
- Flessibilità, disponibilità a trial di full treatment.
- Attenzione alle diversità culturali nei valori e nelle relazioni. Attenzione alle famiglie “non tradizionali”. Attenzione alla fluidità/assenza di valori, magari cristallizzati solo all'atto del colloquio.
- Attenzione al paziente pediatrico.
- Gestione corretta dei conflitti.
- Non lasciare sola la famiglia nemmeno dopo.

E QUINDI? Modelli del processo di decisione condivisa

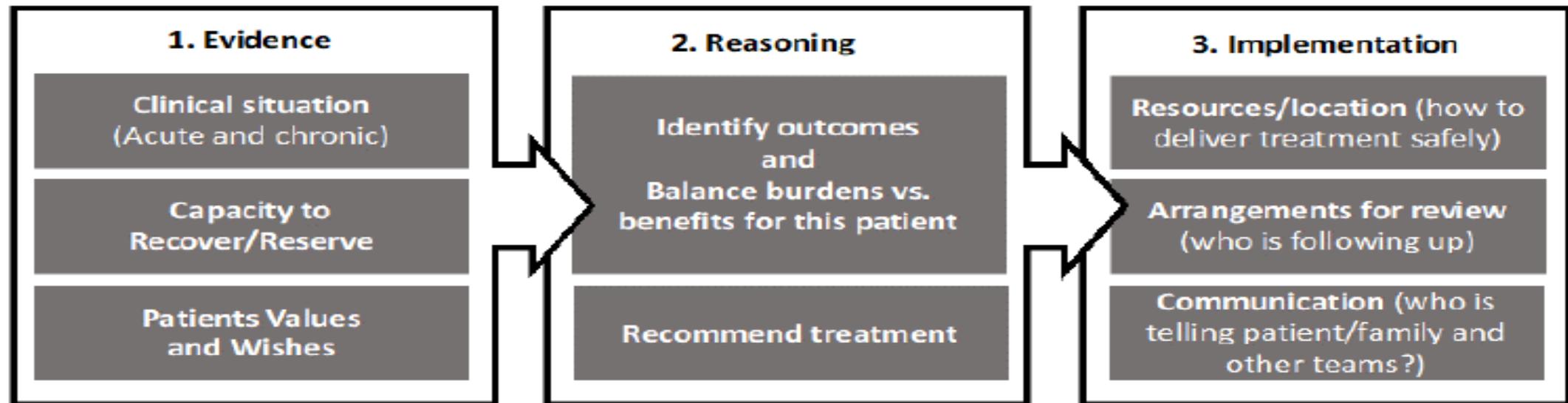
CARE AT THE END OF LIFE: A guide to best practice, discussion and decision-making in and around critical care

This report was produced as part of the Critical Futures initiative, looking to the future for critical care services. www.ficm.ac.uk/criticalfutures

ENDORISING ORGANISATIONS

ICUsteps
Royal College of Anaesthetists
Royal College of Emergency Medicine
Royal College of Physicians, London
UK Critical Care Nursing Alliance

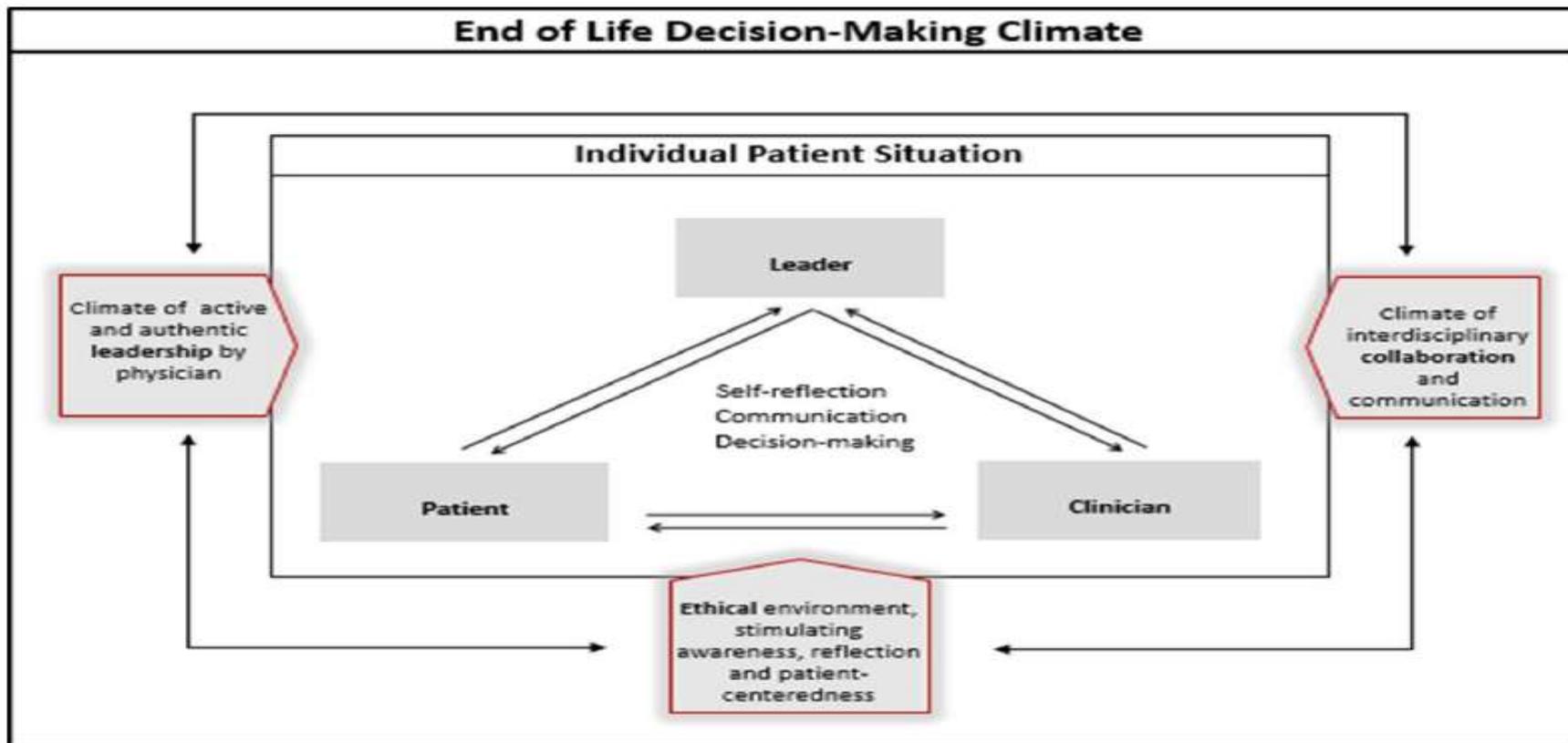
Decision-making for escalation of treatment: Warwick model



Un altro modello: il contesto

End of Life Decision-Making Climate Model (Van den Bulcke et al., 2018)

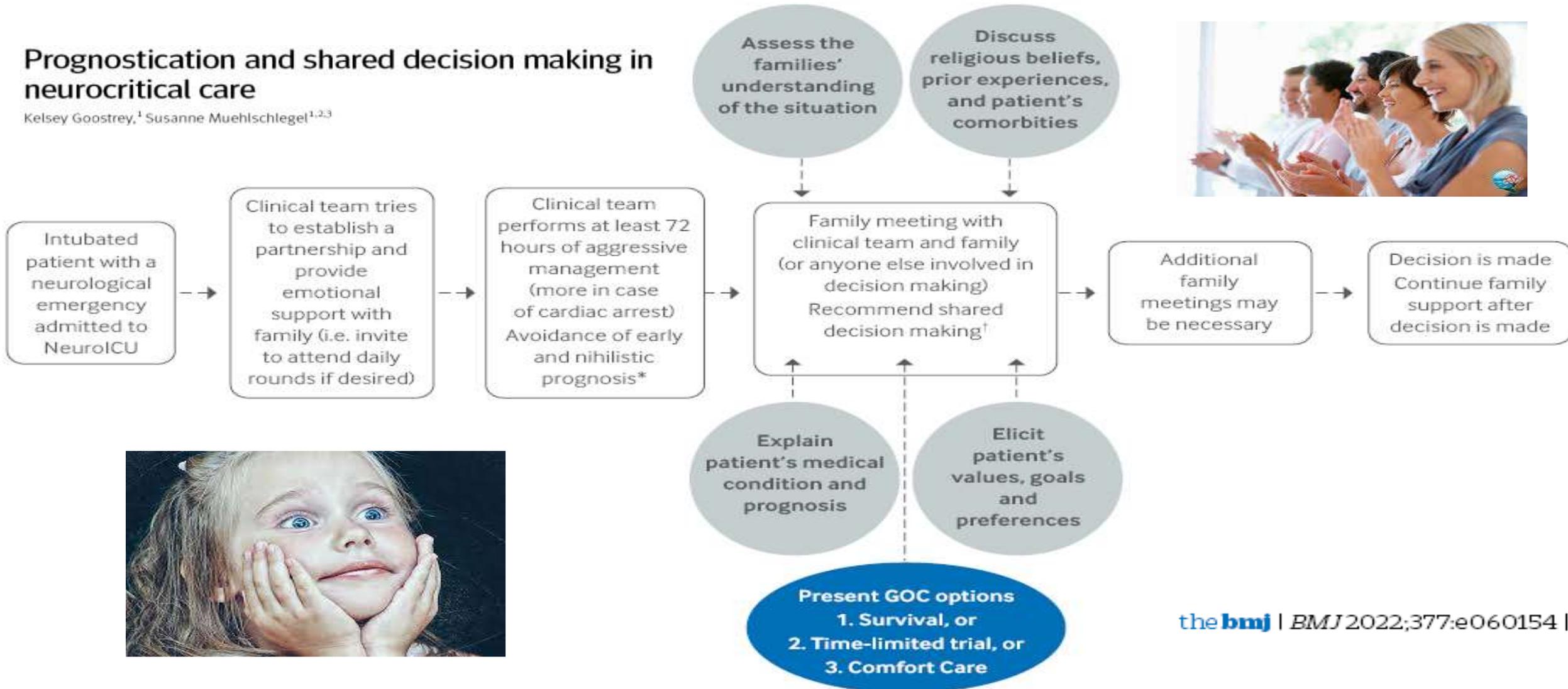
The strong ethical components to decision making are particularly influenced by cultural and organisational norms prevalent within environments in which they are made e.g. interactions between patients, clinicians and potential influence from unit leaders. This has been described as a Decision-Making Climate (Van den Bulcke et al., 2018).



Il migliore (per me)

Prognostication and shared decision making in neurocritical care

Kelsey Goostrey,¹ Susanne Muehlschlegel^{1,2,3}



Una nota personale

Gestire tutto questo: possono farlo tutti?

- Il ruolo del responsabile:
 - Percorsi formativi?
 - Valutazioni a posteriori?



Dying with Dignity in the Intensive Care Unit

Robert Cook, MD, and George Bedke, DM

CONCLUSIONS

Palliative care in the ICU has come of age. Its guiding principles are more important than ever in increasingly pluralistic societies. Ensuring that patients are helped to die with dignity begs for reflection, time, and space to create connections that are remembered by survivors long after a patient's death. It calls for humanism from all clinicians in the ICU to promote peace during the final hours or days of a patient's life and to support the bereaved family members. Ensuring death with dignity in the ICU epitomizes the art of medicine and reflects the heart of medicine. It demands the best of us.





Italian Resuscitation Council