DO-NOT-RESUSCITATE ORDERS: TOWARDS A POLICY IN SINGAPORE

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ABSTRACT

Despite the fact that the pioneers of cardio-pulmonary resuscitation (CPR) designed the techniques for victims who were meant to be "salvable", currently CPR is largely applied to anyone who collapses, regardless of their underlying illness. However, the central fact is that CPR (and all its related complex and expensive technology) has a very low success rate (in terms of eventual hospital discharge) and the most important determinant of survival has always been the nature and stage of the underlying illnesses. All these bespeak of a need to have do-not-resuscitate (DNR) orders which will incorporate the pertinent medical, ethical, socio-cultural and legal components. In this discussion paper some guidelines for DNR orders relevant to Singapore are proposed, the main rationale of the guidelines are explained and some challenges and needed changes associated with its implementation are addressed.

Keywords: *do-not-resuscitate, ethical, legal, medical, policy*

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INTRODUCTION

Cardiopulmonary resuscitation (CPR) was first developed as a technique in 1960 with the description of the closed-chest cardiac massage[1]. In one of the earliest monographs on CPR written in 1965 it was stated that the techniques were designed for the victims of an acute insult such as drowning, electrical shock, untoward effect of drugs, anaesthetic accident, heart block, acute myocardial infarction or surgery; the patient must be "salvable" and that the resuscitation of a dying patient with irreparable damage to the organ system(s) had no medical, ethical or moral justification[2].

Despite this admirable perspicacity on the part of the pioneers of CPR, we still find ourselves in a dilemma over its use three decades later. Presently, almost every patient in the hospital who has a cardiac or respiratory insult receives CPR regardless of the underlying illnesses of these patients[3,4]. A major reason for such an expanded application of CPR has been the remarkable advances in life-support systems, creating thus these days a "technological imperative"[5] - the pressure to do a certain procedure simply by virtue of the fact that it can be done. Additionally, the increasingly litigious nature of modern societies engenders fears of legal action should therapy (and in this instance a therapy that is directly related to life or death) be withheld[6].

This widespread use of CPR has, in turn, produced new challenges and problems. Many of the patients undergoing resuscitation are attached to ventilators in intensive care units where they may stay for a considerable time. The psychological strain faced by the families of these patients and the marked health care costs generated during this period are well recognised matters. The final overall survival rates for these patients, in terms of being discharged from the hospital, are however disappointingly low in most studies. All these have prompted many (ranging from families and doctors to economists and politicians) to question the wisdom of instituting CPR so readily and to enquire about the feasibility of formulating do-not-resuscitate (DNR) policies.

The DNR order has become fairly widespread in many of the hospitals in the west where 66% to 70% of hospital deaths[7-9] and 39% of the deaths in the intensive care units[10] are preceded by a DNR order. Nevertheless, there has been no formal policy for this practice. This however is now changing with the growing realisation that DNR policy is of public as well as professional interest[11].

In Singapore similarly, no formal guidelines on DNR orders exist. To date where they have been practised, the cases have been handled quietly most of the time with minimal open discussion of the relevant issues. This may become increasingly difficult with the current trend of greater public scrutiny of the medical decision-making process. All these developments bespeak of a strong need to formulate a set of guidelines which is in touch with our local context and which helps doctors make consistent and ethical decisions about DNR matters.

In this paper we first propose a concise set of guidelines for DNR orders. The main underlying rationale for these guidelines are then explained, followed by a brief comment on the challenges and needed changes associated with the implementation of the DNR policy. We do not claim to be comprehensive in this effort; our aim rather is to create a starting point, increase awareness and facilitate further discussion on what we believe to be a timely and relevant topic for our society.

GUIDELINES FOR 'DO-NOT-RESUSCITATE' (DNR) ORDERS

Definition: Do-not-resuscitate - In the event of an acute cardiac or respiratory arrest, no cardiopulmonary resuscitation will be initiated.

1) A comprehensive evaluation of the patient's medical condition and social circumstance is necessary before consideration of DNR order.
2) A consultant or senior registrar, together with other members of the medical staff who are directly involved with the patient's management shall be responsible for the careful determination of the appropriateness of the DNR order. In exceptional circumstances, such as an

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emergency admission in the night, the DNR decision, if urgently required, will be made by the most senior duty doctor; this decision will be reviewed by the consultant or senior registrar in charge at the earliest opportunity[12].

3) A DNR decision should be made at least within 24 hours of the patient being in a situation that may require CPR.
4) In all instances the patient (if competent) and family members shall be informed of the medical diagnosis and prognosis. However the disclosure to the patient should be modified according to the extent of the patient's desire for information about his illness and his existing psychological state.
5) Wherever possible the competent patient's own wishes about resuscitation should be obtained and this must guide the subsequent DNR decision.
6) Consent from the patient and/or family members is not necessary for the DNR decision when the doctor concerned is certain about the futility of CPR for that patient. Rather the discussion should inform them of the medical realities and attempt to persuade them of the reasonableness of the DNR order. Should there be strong or persistent disagreement between the doctor and the patient or family in the course of the decision-making process about DNR, it may not be wise to go ahead with the implementation of the DNR decision even when medical futility is its underlying basis; rather the DNR decision should be postponed while further attempts are made to arrive at a consensus by asking for the consultation of another independent senior doctor or by referring the case over to the hospital's ethics committee. Indeed there can be instances when the patient and family may have valid reasons for temporarily prolonging life even in terminal illness with limited life expectancy. This underscores again the importance of the doctor having detailed knowledge of the individual circumstances of each patient before implementing the DNR order. Examples of illnesses where CPR is futile are disseminated malignancies with limited life expectancy or end-stage organ failure (renal, hepatic, pulmonary, cardiac).
7) When it is thought that the patient may have a poor quality of life and that the CPR, though probably successful, may not be meaningful, it is imperative that the issue be discussed with the patient and/or family members so that their views can fashion the DNR decision. Examples of conditions where the quality of life may be deemed to be poor are multiple strokes resulting in a disabled state, profound dementia and chronic illness with a poor functional state.
8) It is important to realise that DNR orders are compatible with good medical and nursing care being given to the patient. It does not follow that once a DNR order has been given then automatically the rest of the patient's management will be reduced or stopped. Therapeutic and supportive care is an independent matter to be addressed by doctors and nurses based on the clinical problems of the patient.
9) Once the DNR decision has been made, this directive shall be written as a formal order in the medical record along with the reasons for that decision so as to provide a clear communication of this decision to the other relevant health care personnel involved with the patient's management. The DNR order shall be subject to regular review at intervals appropriate to the underlying illness[12] and can be rescinded at any time. Any change should again be recorded in the clinical notes together with the detailed reasons.
10) The hospital's ethics committee shall periodically audit the various DNR decisions in the hospital to ensure that the underlying ethical principles and medical considerations are being appropriately and consistently applied.

RATIONALE FOR THE PROPOSED GUIDELINES

The cardinal issue in the implementation of the DNR policy is that of good communication. It is our belief that the DNR decision is best made jointly by the patient, the family and the doctor. Within the context of this joint decision-making process, there is however a hierarchy and it is important that all the relevant parties are aware of this; it essentially revolves around who should be the main decision-maker and in what circumstances. In such a background, three special situations can arise where non-resuscitation can be justifiable[13].

a. Mentally competent patients

The first situation arises in the course of discussing a terminal illness with a cognitively competent patient who refuses resuscitation as a form of management should that patient collapses in the future. What should be borne in mind at this stage is that the patient's decision must be based upon an adequate knowledge of his or her condition and prognosis. Ethically and legally, the individual patient constitutes the most important person as the DNR decision bears directly upon him or her. Such a patient's decision must therefore, to the best extent possible, be honoured by the medical staff.

b. Medical futility

The second situation occurs when CPR is deemed to be medically futile - resuscitation is thought to be almost certainly not successful and thus be of no benefit to the patient. Objective evidence of such futility has been gleaned from several studies[14-18]. Essentially what these investigations show is that survival after CPR is related to underlying illnesses and that resuscitation has a dismal outcome in conditions such as metastatic cancer, repeated cardiac arrests and end-stage organ failures; even when there may be an initial response, very few survive till discharge.

Recognition of medical futility has an important implication for those who will be the main decision-maker in implementing DNR orders. A commonly accepted ethical principle is that doctors have no obligation to provide, and patients and families have no right to demand, medical treatment that is of no demonstrable benefit[19-21]. Thus in the situation where CPR is known to be futile, there is no need for the doctor to seek consent from the patient or family for the DNR decision[22]. The decision that CPR is unjustified because it is futile is a judgement that falls entirely within the doctor's technical expertise.

Nevertheless, even in this context, we feel that as a fundamental ethical principle the patient and family should always be informed of the underlying medical diagnosis and prognosis as well as the basis of the DNR order, so as to secure their understanding and acceptance. Sometimes, as a result of such communication, doctors can become aware that in certain instances the patient and family may have valid reasons for temporarily prolonging life even in a terminal illness with limited life expectancy[19,23].

c. Poor quality of life

The last consideration occurs when the above two do not apply - that is, when the patient has not indicated his or her decision regarding resuscitation and when there is no clear medical futility about CPR. In practice, this involves the issue of quality of life, where the medical staff may recognise that while CPR may be beneficial (in terms of being successful), it may not be meaningful given the poor functional and mental status of the patient. It must be appreciated that judgements on quality of life are extremely subjective and in such an instance, doctors must discuss the matter with the patient (if practicable) and the family to see what their own views of the patient's quality of life is. The patient's or - especially in the case of an incompetent patient - the family's perception about this parameter (and not the doctor's) should fashion the DNR decision.

CHALLENGES AND NEEDED CHANGES

a. Talking to patients

Communication with the patient has featured prominently in arriving at the DNR order. From ethical and legal standpoints, informed concurrence from the patient about the DNR decision is the best solution to the many challenges faced in the implementation of a no-resuscitation policy. Nevertheless we acknowledge the many practical difficulties involved in effecting this communication.

To be meaningful at all, the discussion with patients about their status and prognosis and whether they want any resuscitation should they become critically ill later on, will have to occur before any cognitive deterioration arises. Does this eventually mean, as is occurring in USA presently, that the patients must be asked of these decisions straight upon admission itself?

The discomfort, potential anxiety and even depression that may be provoked in patients as a result of such discussions are genuine especially in the context of our more circumspect and reserved local cultures where many matters are characteristically never openly addressed. Even in the United States where DNR policies have been pursued most vigorously, the actual incidence of doctors discussing such matters with patients is low[24], and some have also stated that communication of this subject should not be with all patients upon admission but only with a selected group whose hospital course is being characterised by a slow, progressive deterioration[25].

It is in acknowledgement of these difficulties that in our guidelines we have stated that the discussions with patients should be tailored according to the patients' own desire for information and their psychological state. This will call for sensitivity and perceptiveness on the part of the doctors. The dialogue with the family members of the patients should be open and continuing. They may also be able to state the patients' own preference or otherwise for resuscitation (based on the patients' previous indications to the family members); this can be especially helpful when the patients themselves cannot communicate or are now incompetent. Alternatively, the patients' wishes can also be clearly known if they had written advanced directives about resuscitation matters in the past. In Singapore however, there is currently no legal recognition for such documents.

b. Disagreements

We are also aware that while open consultations with patients and families fulfill the modern society's ethical and legal needs, they can also be potentially problematic as when disagreements arise over the DNR decision between the doctors on one hand and the patients or families on the other. The latter may not accept the medical staff's basis for a DNR decision. We believe that when such situations arise, it will be important for the doctors to always appreciate the strains being experienced by the patient and family, and based on that understanding, to re-explain matters on a non-confrontational basis. Should disagreements persist, we feel that it may be advisable to have the patient or family consult another (and preferably more senior) doctor. There should of course be a consistent concurrence amongst the medical staff before the DNR decision for a patient is put into effect. Alternatively, such more difficult cases may be referred to the hospitals' ethics committee for resolution[26,27]; in the meanwhile, it may be wiser to postpone implementing any DNR decision.

Conversely, the disagreement can also arise when the patient or family requests DNR and the doctor concerned does not deem it appropriate. We feel that the same consensus-seeking pathways and principles stated above should also apply in such a setting.

c. Legal Sanctions

We foresee that one of the greatest difficulties that will plague the medical profession as they struggle to implement the DNR policy is the uncertainty of the ultimate legal status of their decisions. The guidelines outlined above are derived essentially from an ethical basis; but from the practical point of view what matters most is whether they are also legally sanctioned. Abroad, based on the literature from the United Kingdom and the United States, court rulings are generally consistent with the ethical standpoint taken in this paper. Locally, however, we know of no legal precedence on such matters. A clear statement from our judiciary on the legal status of DNR, we believe, will be fundamental to its meaningful implementation. Similarly, statements on the validity of advanced directives and how they can be used will also be very pertinent to this topic.

d. Public Awareness

Lastly, we feel that the time has come for greater public discussion on this important subject. It is truly unfortunate that in many instances discussion on health care costs have occurred at the same time as discussions on DNR orders; this only serves to create a cynical view that DNR matters are only important because of the heavy cost of keeping these patients alive. While we acknowledge that economic concerns about finite resources have a genuine validity, it should also be appreciated that there are several other reasons for raising this subject.

We must never forget that CPR has always had a low success rate to begin with, most studies observing that only 10 to 20% of patients undergoing CPR are finally discharged from the hospital[13,14,16,28]. Many of the patients who eventually die spend their last days in intensive care units attached to ventilators and a wide array of life-support devices, comatose and totally dependent. The life-support systems are of crucial value in those underlying conditions which are serious but reversible; against terminal and irreversible illnesses the gadgets and machinery can never avert death, but only postpone it, and this crucial fact must be acknowledged and accepted by all of us. Otherwise, the life support systems can make a mockery of what living is all about and rob the natural dying process of its dignity.

We feel that these are cogent reasons to consider and advocate DNR orders. Greater public awareness of all these matters - through more open discussions in the media - will in the longer run facilitate the necessary communication between doctors, patients and families that is vital to the DNR decision making process.

CONCLUSION

In this paper we have only addressed the withholding of life-support therapy; withdrawal, on the other hand, of the same therapy is a totally separate, and perhaps even more complex, subject matter. It should also be borne in mind that the DNR order is only raised in the setting of a terminal illness or a perceived poor quality of life. In any other situation the discussion of this topic (and other related matters such as advanced directives) is irrelevant and even meaningless. Even in its proper context, however, a formal DNR policy opens up complex underlying decision-making processes to greater public scrutiny which is perhaps inevitable in any evolving, modern, democratic society.

Thus the greatest challenge for doctors in implementing the DNR order is to make clear and comprehensible the pertinent reasons to the patients and/or their families. To formulate the DNR decision soundly in the first place, ethical principles need to be identified and applied after a careful review of the patient's medical, functional and social circumstances. Though there is a fair degree of clarity about the ethical underpinning of DNR orders, there is nevertheless a significant uncertainty about the legal status of DNR decision matters in Singapore; whilst in the Western courts there has been a general consonance between the ethical and legal stands, it is nevertheless important for us to have our own clear legal guidelines.

In essence, not many will disagree with the need for a policy that indicates how life-sustaining therapy can be withheld from some of the patients. The fact that it is meaningless to resuscitate every patient who collapses, regardless of their illnesses, is basically a truism. As we struggle however, to transform this perception to a practical policy, we become increasingly aware of the various medical, ethical, socio-cultural, and legal challenges that need to be addressed and surmounted. These ultimately define our true readiness to effect the DNR order in our society.

REFERENCES

1. Kuowenhoven WB, Jude JR, Knickerbocker GG. Closed chest cardiac massage. JAMA 1960;173:1064-7.
2. Talbott JH. Introduction. In: Jude JR, Elam JO, eds. Fundamentals of cardiopulmonary resuscitation. Philadelphia: F A Davis,1965:1-4.
3. Blackhall LJ. Must we always use CPR? N Engl J Med 1987;317:1281-4.
4. Miles SH, Cranford R, Schultz AL. The do-not-resuscitate order in a teaching hospital. Considerations and a suggested policy. Ann Intern Med 1982;96:660-4.
5. Fuchs VR. Who shall live? Health, economics, and social choice. New York: Basic Books, 1974.
6. Fox M, Lipton HL. The decision to perform cardiopulmonary resuscitation. N Engl J Med 1983;309:607-8.
7. Schwartz DA, Reilly P. The choice not to be resuscitated. J Am Geriatr Soc 1986;34-807-11.
8. Lipton HL. Do not resuscitate decisions in a community hospital:incidence, implications and outcomes. JAMA 1986;256:1164-9.
9. Jonsson PV, McNamee M, Campion EW. The "do not resuscitate" orders: a profile of its changing use. Arch Intern Med 1988;148:2373-5.
10. Zimmerman JE, Knaus WA, Sharpe SM, Anderson AS, Draper EA, Wagner DP. The use and implications of do not resuscitate orders in intensive care units. JAMA 1986:255:351-6.
11. Florin D. 'Do no resuscitate' orders: the need for a policy. J R Coll Physicans Lond 1993;27:135-8.
12. William R. The 'do not resuscitate' decision: guidelines for a policy in the adult. J R Coll Physicians Lond 1993;27:139-40.
13. Doyal L, Wilsher D. Withholding cardiopulmonary resuscitation: proposals for formal guidelines. Br Med J 1993;306:1593-6.
14. Peatfield RC, Sillett RW, Taylor D, McNicol MW. Survival after cardiac arrest in hospital. Lancet 1977;i :1223-5.
15. Hershey CO, Fisher L. Why outcome of cardiopulmonary resuscitation in general wards is poor. Lancet 1982;i:31-4.
16. Johnson AL, Tanser PH, Ulan RA, Wood TE. Results of cardiac resuscitation in 52 patients. Am J Cardiol 1967;20:831-5.
17. Bedell SE, Delbanco TL, Cook F, Epstein FH. Survival after cardiopulmonary resuscitation in the hospital. N Engl J Med 1983;309:569-76.
18. George AL, Folk III BP, Crecelius PL, Campbell WB. Pre-arrest morbidity and other correlates of survival after in-hospital cardiopulmonary arrest. Am J Med 1989;87:28-34.
19. Tomlinson T, Brody H. Futility and the ethics of resuscitation. JAMA 1990;264:1276-80.
20. Jonsen AR, Siegler M, Winslade WJ. Clinical ethics. New York, Macmillan Publishing Co Inc. 1982.
21. Lo B, Jonsen AR. Clinical decisions to limit treatment. Ann Intern Med 1980;93:764-8.
22. Tomlinson T, Brody H. Ethics and communication in do-not-resuscitate orders. N Engl J Med 1988;318:43-6.
23. Hackler JC, Hiller FC. Family consent to orders not to resuscitate: reconsidering hospital policy. JAMA 1990;264:1281-3.
24. Bedell SE, Pelle D, Maher PL, Cleary PD. Do-not-resuscitate orders for critically ill persons in the hospital. How are they used and what is their impact? JAMA 1986;256:233-7.
25. Charlson ME, Sax FL, Mackenzie R, Fields SD, Braham RL, Douglas G. Resuscitation: how do we decide? A prospective study of physicians' preferences and the clinical course of hospitalized patients. JAMA 1986;255:1316-22.
26. Brennan TA. Ethics committees and decisions to limit care. The experience at the Massachusetts General Hospital. JAMA 1988;260:803-7.
27. Lo B. Behind closed doors. Promises and pitfalls of ethics committees. N Engl J Med 1987;317:46-9.
28. Scott RP. Cardiopulmonary resuscitation in a teaching hospital. Anesthesiology 1981;36:526-30.