Palliative Care
Resuscitation

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This book is dedicated to my husband, Andrew, without whose support I would not have achieved anything in life, and would not have finished this book. Thanks for all the shopping, cleaning and ironing you have done to enable me to have time to do this.
I feel very privileged to have been given the chance to write this book, something I have always wanted to do but never thought I would.

The subject of resuscitation in palliative care has been one close to my heart for a few years now, since carrying out some research for my dissertation. The research was based on oncology nurses' perceptions of resuscitation status for oncology patients. Although only a small study it generated some interesting points and clarified certain issues. From this I became involved in our Trust’s patient information group for producing patient and family carer’s information on resuscitation. From this, I have been able to undertake teaching sessions on the subject, not only within my own Trust but also to others.

The study and learning that writing this book has generated for me has given me even greater knowledge and insight into the subject of resuscitation in palliative care and I hope this book, written mainly for nurses and other allied health professionals, will fire up others to take this forward within their own Trusts and areas of patient care. The subject is by no means a cut and dried one; indeed, there are many grey areas. But I hope this book will aim to resolve some of the questions and ethical considerations the topic generates and encourage all healthcare workers that it is an area of major importance.

Certain phrases have been used throughout the book which may not be familiar to the reader. For instance, the phrase ‘Do Not Attempt Resuscitation’ (DNAR) has been used for people who are given an order not to receive cardiopulmonary resuscitation. This is the phrase recommended to be used by the resuscitation guidelines, for those patients who should not receive it. The term ‘family carers’ has been used for anyone who is a friend, relative or next of kin to the patient. This is now the correct term for any significant other who is involved in caring for the patient. And, yes, I have used the term patient, and not client, within the book, for this reason: I do not feel any person who develops a palliative illness is a client, since the word client generates visions, to me, of someone who has entered into a contract with someone else through choice. I am sure most, if not all, palliative care patients would not choose to be in the health status they are, hence the use of the word patient.

I have chosen some case studies to attempt to highlight certain issues discussed in the chapters. These case studies are entirely fictitious and have only been used as a teaching resource.
Finally, I hope you will enjoy the book as much as I have enjoyed the learning experience and the writing of it. I hope it will enable you to see the value of life and of a good death, and how important palliative care and its principles are. I wish you all a long and happy career in patient care.

Madeline Bass
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Acknowledgements

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1 The history of cardiopulmonary resuscitation

The development of modern cardiopulmonary resuscitation (CPR) has influenced today’s Western society into feeling that there is control over death at any time. Western society and Western medicine zealously pursues immortality, and because medical research has discovered cures for diseases which decades ago would have killed many, patients have literally been brought back from the brink of death with the new medical technological advances that have been made, such as genetically engineered drugs, organ transplantation and life-support machines and devices. Yet death remains an everyday occurrence.

This feeling of control over death has been reinforced by the media, which has portrayed CPR as dignified, easy to do, appropriate for all and usually successful (BMA et al., 2001). The media, including Hollywood, also portrays death itself as violent, sudden or romantic (Cooley, 2000). The many medical and nursing dramas on television often include incidences of CPR and its portrayal is mostly far removed from reality. Western society is fascinated by death, disease and illness, something which the media has profited from, and this fascination includes CPR. Unfortunately, with CPR, as with many other medical procedures, there is a stark difference between what is portrayed by the media and reality. This leaves the public with little true understanding of what CPR really involves, and often leaves people puzzled, bewildered and angry when it is not appropriate for themselves or their relative.

However, modern CPR (i.e. closed chest cardiac massage, defibrillation and mouth-to-mouth resuscitation) has only been used since 1960. It is amazing how something so relatively new is widely accepted in hospitals and the community alike, is seen as normal and as something to be expected. CPR is the one procedure in medicine for which consent is sought against it, not for it. The need for CPR is the only situation which imposes an apparent duty on health professionals to discuss a futile treatment without request from the patient, and equally, a situation where health professionals appear relieved of the obligation to discuss a treatment they plan to implement, as with non-futile CPR (Thorns, 2000).

Cardiopulmonary arrest can be defined as when a person’s heart and breathing stop, or, ‘Loss of consciousness with absence of circulation, accompanied
by absent or gasping respirations’ (Quinn, 1998). When this happens it is sometimes possible to reverse respiratory and cardiac arrest, using CPR which might include:

- repeatedly pushing down firmly on the chest
- using electric shocks to try and restart the heart
- ‘mouth to mouth’ breathing
- inflating the lungs through a mask over the nose and mouth or tube inserted into the windpipe. (BMA et al., 2001)

The aims of CPR are to restart the heart and breathing to the extent that the body can support itself.

The British Medical Association (BMA), the Royal College of Nursing (RCN) and the Resuscitation Council UK (RCUK) have produced some very comprehensive guidelines concerning cardiac and respiratory resuscitation (BMA et al., 2001). These guidelines state that resuscitation can be attempted on any person whose cardiac or respiratory functions cease; however, it must be accepted that failure of these functions is part of the dying process and for everyone there comes a time when death is inevitable. It is important therefore to identify those patients for whom cardiopulmonary arrest is caused by a terminal event, and for whom CPR would not be appropriate, in order to ensure that they have a dignified death.

The development of CPR itself has had some rather bizarre steps along the way. Resuscitation of the dead is a recurrent theme in ancient mythology, and artificial respiration by midwives helping newborn babies to breathe is documented in the Book of Kings (in the Bible). In the early ages the heat method was used to try and revive people, hoping to warm the cooling body and restore heartbeat and breathing; this involved placing hot coals on the victim’s thorax. It proved successful in some cases of hypothermia and unconsciousness but not in victims of actual cardiopulmonary arrest. In the 1500s the bellows method became popular; this involved the use of fire bellows which were placed in the victim’s mouth and used to inflate the lungs. The occasional success of this method led to the design of the bag–valve–mask resuscitators used today. However, the authorities at the time were not yet aware of the need to hyper-extend the airway in order to allow good air entry into the lungs, so the method was not as successful as it may have been. The early 1700s saw the use of the fumigation method, one which was at times successful but it is difficult to say why. It was initially used by the North American Indians and then by the American colonists and later introduced to England in 1767. The method involved filling the removed bladder of an animal with tobacco smoke and then blowing this smoke into the victim’s rectum. In 1744 Tossach used mouth-to-mouth artificial respiration on a drowned person, but this method was abandoned in favour of more mechanical methods. In 1770 the inversion method became popular. This was when the victim’s ankles were tied together with a rope, which was then fixed to a pulley. The victim was hoisted up by the
ankles and alternately raised and lowered in an attempt to get air in and out of the chest cavity.

In the late 1700s, societies for preventing sudden death began to appear throughout Europe, for example the Dutch Society for Recovery of Drowned Persons, founded in 1767, and the Royal Human Society in Great Britain, founded in 1774. These societies practised some of the resuscitation techniques of the time, such as laying the body over a wine barrel and rolling the thorax backwards and forwards to cause chest compressions (late 1700s) or placing the person on the back of a trotting horse so that the motions also reproduced chest compressions (early 1800s). This latter method was initially used by American lifeguards on the beaches but was stopped by the ‘Citizens for Clean Beaches Campaigners’, about 1815. In the early 1800s the Russians adopted the ice method, encasing the victim’s body in ice and snow in the hope of slowing the body’s metabolism. Unfortunately, the method omitted to cool the head, which is also needed in order to slow the body’s metabolism.

The publication of Mary Shelley’s book, *Frankenstein, or the Modern Prometheus*, in 1818 caused artificial respiration and CPR to disappear for many years. The story of a mad scientist bringing life to a dead body did nothing to enhance the image of CPR.

In 1898 Tuffier and Hallion performed open chest cardiac massage successfully and this then became the popular method of cardiac resuscitation until the 1950s. In 1899 Provost and Batelli used alternate-current open-chest cardiac defibrillation on dogs with induced ventricular fibrillation with success. In the early 1900s Crile described closed-chest cardiac massage and recognised the importance of achieving adequate coronary perfusion pressure, and also the value of adrenaline.

The increasing use of electricity in the early twentieth century allowed the development of defibrillation for ventricular fibrillation. High fatality rates among electrical workers lead Edison to support the development of an electrical defibrillator by Hooker, Kouwenhoven and Langworthy. Wiggers also made significant contributions to the understanding of the pathophysiology of ventricular fibrillation at this time. Beck reported the first successful case of open defibrillation in 1947, and Zoll reported successful closed-chest defibrillation using alternate current in 1956.

In the late 1950s doctors Safar and Elam demonstrated that mouth-to-mouth rescue breathing was superior to the mechanical techniques previously used. The interest in closed-chest cardiac massage was rekindled around this time as well. Bahnson successfully used this technique to resuscitate a small child in 1958, and in the 1950s the US military began an aggressive public campaign on the use of mouth-to-mouth resuscitation, which they had used successfully in World War Two. American lifeguards were instructed on how to perform mouth-to-mouth resuscitation whilst in the water, using flotation aids.

Further research was carried out on cardiac defibrillation in the 1960s. Dr Frank Partridge was responsible for the first portable defibrillators being put
into ambulances in 1963: at that time they were size of a small refrigerator, and difficult to use (hard to believe as today defibrillators are easily portable, and increasingly available for use by the public).

CPR as we know it today was fully developed by Kouwenhoven et al. in 1960, and combined mouth-to-mouth resuscitation, defibrillation and closed-chest cardiac massage. This research was fully reported in the *Journal of the American Medical Association* (JAMA) in 1960. The article outlined the crucial aspect of this whole technique (using either open- or closed-chest cardiac massage), which was that the patient received oxygenated blood that would then be transported to the brain by minimal blood circulation, reducing anoxia and its effects on the brain and body. It described the team’s previous research on closed-chest compressions in cats and dogs and the noted positive blood pressure changes this technique induced. This method was then applied to humans, the anatomy of the thorax lending itself to such chest compressions: the sternum, vertebrae and ribs provide an enclosed area with support, allowing the heart to be compressed when pressure is applied correctly, and then to relax when this pressure is removed, thus allowing the heart to fill with blood again. This method was also meant to allow some lung ventilation and the article advocated concentrating mainly on the chest compressions if a person was attempting CPR on a patient by themself. This method of CPR was trialled at the John Hopkins Hospital, in the USA, over a nine-month period. Twenty patients, aged between two months and 80 years, were all resuscitated successfully, and 14 of them lived to the time the article was written 10 months later. Five cases were reported in detail, four of which needed resuscitation during surgery and one of which was admitted to the emergency room in ventricular fibrillation. There are no details given of which of the 20 patients survived, or anything to suggest why.

On the surface, CPR sounded fantastic: the answer to every doctor’s need, helping them to overcome death and disease more than ever. Unfortunately, all the cases reported were sudden, traumatic events, nothing to do with palliative care or death from terminal illness. The application of this method of CPR so readily to nearly all areas of medicine is frighteningly intense, and has probably been influenced heavily by medical paternalism (i.e. medical staff take the dominant role in care and treatment decisions). Ironically, at a similar time, Dame Cicely Saunders was one becoming of the first pioneers of palliative care, and the hospice movement.

In the 1970s CPR was introduced to the public, and in the past few years it has been added as mandatory to all first aid training as well as to all medical and nurse training, with mandatory yearly updates required of all clinical staff. It is available world wide and resuscitation teams are found in every general hospital. It is a widely accepted and expected management of cardiac arrest, and is regulated and advised by the Resuscitation Council in the UK, Europe and worldwide. These councils work in conjunction with medical and nursing
councils worldwide in order to update CPR guidelines and training as required.

The history and development of CPR provides some insight into its ongoing importance in medicine; however, this must be balanced with appropriate use, likely success and possible side effects.