بسم الله الرحمن الرحيم

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تم رفع هذه الرسالة بواسطة / سلوي محمود عقل

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

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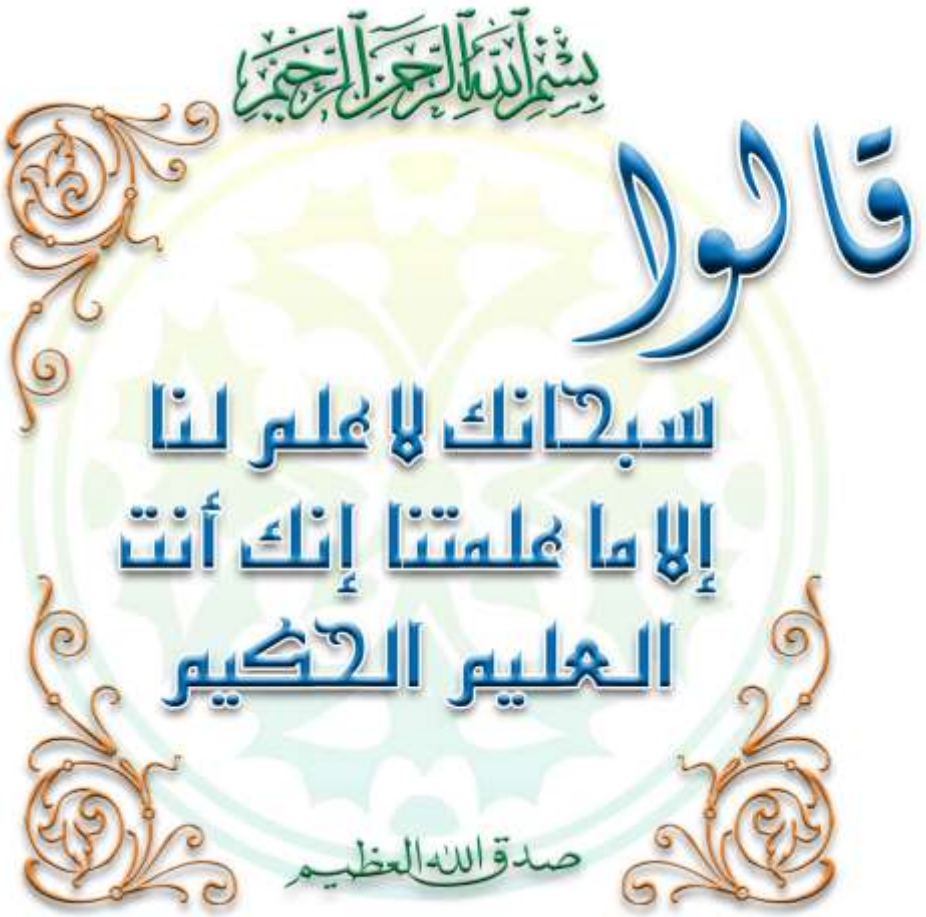

سورة البقرة الآية: ٣٢

Updated Guidelines for Cardiopulmonary Resuscitation with Special Situations in ICU

Essay

Submitted for partial fulfillment for master degree
In Intencive Care Medicine

By

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الجديد فى المبادئ التوجيهية لإنعاش القلب والرئتين مع دراسة بعض الحالات الخاصة في وحدة العناية المركزة

رسالة توطئة

للحصول على درجة الماجستير في العناية المركزة

مقدمة من

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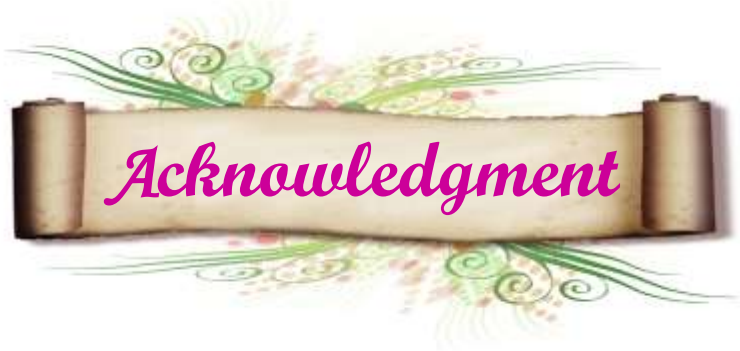

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Ahmed Abou El maaty Saad

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To

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To

My Wife who always support me, my son Yousef who fill my life with joy.

Contents

List of Abbreviations

ACLS	**:**	Advanced cardiovascular life support
ACS	**:**	Acute coronary syndrome
AED	**:**	Automated external defibrillator
AHA	**:**	American heart association
AMI	**:**	Acute myocardial infarction
ATP	**:**	Adenosine triphosphate
BLS	**:**	Basic life support
CI	**:**	Confidence interval
CPP	**:**	Cerebral perfusion pressure
CPR	**:**	Cardiopulmonary resuscitation
ECC	**:**	Emergency cardiac care
ECG	**:**	Electrocardiogram
EDD	**:**	Eosophageal detector device
EMS	**:**	Emergency medical service
FiO2	**:**	Fractional inspired concentration
IM	**:**	Intramuscular
IN	**:**	Intranasal
IO	**:**	Intraosseous
IV	**:**	Intravenous
LBBB	**:**	Left bundle branch block
LMA	**:**	Laryngeal mask airway
LV	**:**	left ventricle

PCI	**:**	Percutaneous coronary intervention
PE	**:**	Pulmonary embolism
PEA	**:**	Pulsless electrical activity
ROSC	**:**	Return of spontaneous circulation
SC	**:**	Subcutaneous
SCA	**:**	Sudden cardiac arrest
STEMI	**:**	ST elevation myocardial infarction
VF	**:**	Ventricular fibrillation
VT	**:**	Ventricular tachycardia

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Introduction

In 1966 the American Heart Association (AHA) developed the first cardiopulmonary resuscitation (CPR) guidelines, which have been followed by periodic updates. During the past 50 years the fundamentals of early recognition and activation, early CPR, early defibrillation, and early access to emergency medical care have saved hundreds of thousands of lives around the world. These lives demonstrate the importance of resuscitation research and clinical translation and are cause to celebrate this 50th anniversary of CPR ***(Eisenberg, 2009).***

The newest development in the 2010 AHA Guidelines for CPR and Emergency cardiac care (ECC) is a change in the basic life support (BLS) sequence of steps from "A-B-C" (Airway, Breathing, Chest compressions) to "C-A-B" (Chest compressions, Airway, Breathing) for adults and pediatric patients (children and infants, excluding newly borns). Although the experts agreed that it is important to reduce time to first chest compressions, they were aware that a change in something as the A-B-C sequence would require re-education of everyone who has ever learned CPR BLS is the foundation for saving lives following cardiac arrest. Fundamental aspects of adult BLS include immediate recognition of sudden cardiac arrest and activation of the

emergency response system, early performance of high-quality CPR, and rapid defibrillation when appropriate. The BLS algorithm has been simplified, and "Look, Listen and Feel" has been removed from the algorithm ***(AHA Guidelines, 2010).***

The 2010 AHA Guidelines for CPR and ECC have been updated to reflect new data on the use of pacing in bradycardia, and on cardioversion and defibrillation for tachycardic rhythm disturbances. Integration of Automated External Defibrillators (AEDs) into a system of care is critical in the Chain of Survival in public places outside of hospitals. To give the victim the best chance of survival, 3 actions must occur within the first moments of a cardiac arrest: activation of the EMS system provision of CPR, and operation of a defibrillator ***(Hinchey et al., 2010).***

Advanced Cardiovascular Life Support (ACLS) affects multiple links in the Chain of Survival, including interventions to prevent cardiac arrest, treat cardiac arrest, and improve outcomes of patients who achieve Return of Spontaneous Circulation (ROSC) after cardiac arrest. Adenosine can now be considered for the diagnosis and treatment of stable undifferentiated wide-complex tachycardia when the rhythm is regular and the QRS waveform is monomorphic.

For symptomatic or unstable bradycardia, intravenous (IV) infusion of chronotropic agents is now recommended as an equally effective alternative to external pacing when atropine is ineffective. In addition, atropine is no longer recommended for routine use in the management of pulseless electrical activity (PEA)/ asystole ***(Meaney et al., 2010).***

The 2010 AHA Guidelines for CPR and ECC recognize the increased importance of systematic care and advancements in the multispecialty management of patients following ROSC and admission to the hospital that can affect neurologically intact survival.

Initial and later key objectives of post–cardiac arrest care include:

- Optimizing cardiopulmonary function and vital organ perfusion after ROSC.
- Transportation to an appropriate hospital or critical-care unit with a comprehensive post–cardiac arrest treatment system of care.
- Identification and intervention for acute coronary syndromes (ACS).
- Temperature control to optimize neurologic recovery.