



Dr Owais Rafiq  
Consultant Pediatric  
Anesthesiologist

## ABOUT

- Head Of Risk And Quality Improvement, Dept Of Anesthesia & Operation Theatre
- Member of Accreditation Committee, Gov. Hosp
- Child Healthcare Advocate
- Researcher
- Author
- Environmentalist



+97-333-934331  
[drowaiz@gmail.com](mailto:drowaiz@gmail.com)  
[drowaisrafiq.com](http://drowaisrafiq.com)



House 1616, Block 525, Road  
2531, SAAR, Bahrain



DrOwaisRafiq

## ABOUT ME

I am Owais Rafiq, an accomplished pediatric anesthesiologist and a dedicated advocate for child healthcare, currently practicing in the Kingdom of Bahrain. I am driven by an unwavering commitment to enhancing safety, education, and wellness in the field of pediatric anesthesia. As a highly skilled anesthesiologist, my expertise encompasses a broad spectrum of anesthesia practice tailored to pediatric as well as adult patients. With a focus on safety, precision, and patient-centred care, I excel in administering anesthesia for a wide range of surgical procedures, including complex and rare clinical conditions. In addition to being proficient in general anesthesia techniques, I possess advanced skills in regional anesthesia, allowing for targeted pain management and enhanced postoperative recovery. My comprehensive knowledge also extends to obstetric anesthesia, contributing to the safe delivery of countless newborns and providing expert pain management during labor and cesarean sections. Through continuous professional development and a commitment to staying abreast of the latest advancements in anesthesia practice, I strive to deliver the highest standard of care to my patients.

# MEMBERSHIPS

- Society of Pediatric Anesthesia
- American Society of Anesthesia
- Association of Great Britain & Ireland
- College of Anesthesia Ireland
- Congenital Cardiac Anesthesia Society
- Society of Pediatric Pain Management
- European Society of Anesthesia
- Gold member of Egyptian Society of Anesthesiologists and Acute Care ESAAC

# EDUCATION

FELLOWSHIP PEDIATRIC ANESTHESIA / 2021-2023

COLLEGE OF ANESTHESIA IRELAND

DIPLOMA IN PEDIATRICS / 2022

ROYAL COLLEGE OF PHYSICIANS, IRELAND

DESA / 2017

EUROPEAN DIPLOMAT IN ANESTHESIA & ICU

CABA&I / 2016

ARAB BOARD IN ANESTHESIA & ICU BAHRAIN

DIPLOMA IN REGIONAL ANESTHESIA / 2015

UNIVERSITY OF MONTPELLIER, FRANCE

M.B.B.S MEDICINE / 2004 - 2009

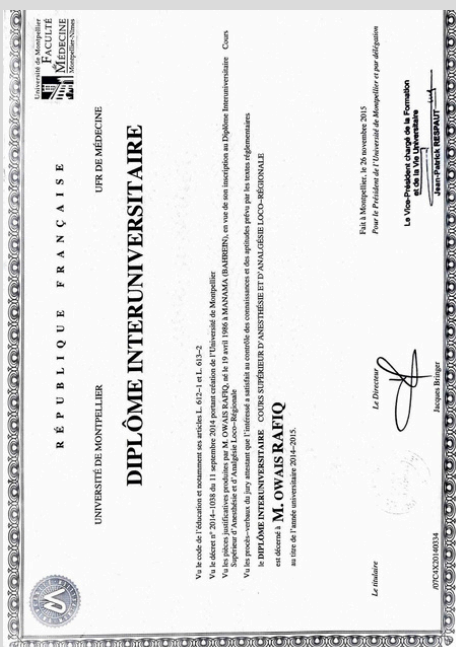
TIANJIN UNIVERSITY

# LICENSES

- NATIONAL HEALTH REGULATORY AUTHORITY - BAHRAIN (2023 - 2024)  
CONSULTANT ANESTHESIA | SUBSPECIALITY-PEDIATRIC ANESTHESIA
- NMEDICAL COUNCIL OF IRELAND (JAN 2021 - MAR 2023)
- GMC REGISTRATION - UK (JAN 2019 TO DATE)
- ORCID ID: 0009-0009-3794-4404

# LIFE-SAVING CERTIFICATIONS

- ADVANCED PEDIATRIC LIFESUPPORT (APLS) AMERICAN HEART ASSOCIATION | 2023
- ADVANCED CARDIOVASCULAR LIFESUPPORT (ACLS) ROYAL COLLEGE OF PAEDIATRICS AND CHILD HEALTH | 2023
- BASIC LIFESUPPORT (BLS) AMERICAN HEART ASSOCIATION | 2023



# CORE COMPETENCIES

GENERAL ANESTHESIA  
 REGIONAL ANESTHESIA  
 ICU AND CRITICAL CARE  
 PEDIATRIC ANESTHESIA  
 OBSTETRICS ANESTHESIA  
 INVASIVE ANESTHESIA MONITORING  
 RESEARCHER & EDUCATOR  
 QUALITY IMPROVEMENT VOLUNTEER  
 ENVIRONMENTAL SUSTAINABILITY

# CLINICAL EXPERIENCE

**Pediatric Anesthesiologist**  
 / Jan 2023 - Present  
**Head Of Quality And Risk Management, Dept Of Anesthesia**

BAHRAIN GOVERNMENT HOSPITAL

/ Sept 2023 - Present

**International Clinical Fellow Anesthesia**

CHILDREN'S HEALTH IRELAND (CHI)

/ Jan 2021 - Jan 2023

**Chief Resident Anesthesia**

MINISTRY OF HEALTH - BAHRAIN

/ Jan 2019 - Dec 2020

**Senior Resident Anesthesia**

/ Oct 2016 - Dec 2018

**Specialist Trainee Resident**

/ Sep 2012 - Sep 2016

General Physician

NOORHOSPITAL, BAHRAIN

/ Dec 2011 - Sep 2012

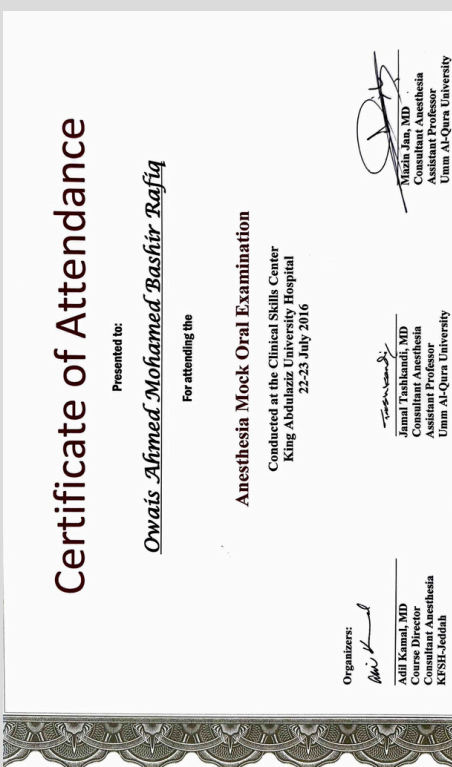
**Internship**

MINISTRY OF HEALTH - SAUDI ARABIA

/ Sep 2010 - Nov 2011

# CLINICAL SKILLS

- PREOPERATIVE ASSESSMENT AND CARE
- GENERAL ANESTHESIA FOR ALL COMPLEX CASES EXCEPT ADULT CARDIAC SURGERY
- REGIONAL ANESTHESIA: USG-GUIDED NERVE BLOCKS INCLUDING UPPER LIMB, LOWER LIMB, TRUNCAL, ABDOMINAL ETC.
- NEUROAXIAL TECHNIQUES: SPINAL, EPIDURAL, CAUDAL
- HIGH-RISK PROCEDURE SEDATION OUTSIDE THE OR FOR ECT, ENDOSCOPY, ERCP, MRI, ETC.
- ACUTE PAIN MANAGEMENT TECHNIQUES INCLUDING PCAS, EPIDURALS, IV OPIOID INFUSION ETC.
- POST-OPERATIVE PAIN MANAGEMENT
- AIRWAY MANAGEMENT INCLUDING ENDOTRACHEAL INTUBATIONS (DIRECT, VIDEOLARYNGOSCOPY, FIBER OPTIC), TRACHEOSTOMY
- CHEST TUBE INSERTION
- ADVANCED LIFE SUPPORT AND RESUSCITATION (NEONATE TO ADULT)
- MECHANICAL VENTILATION AND WEANING
- CRITICAL CARE MEDICINE EXPERTISE INCLUDING INVASIVE HEMODYNAMIC MONITORING AND FLUID AND ELECTROLYTE MANAGEMENT



The President and Board of the European Society of Anaesthesiology have granted this diploma on December 5, 2017

to  
**Owais Ahmed Mohamed Bashir Mohamed Rafiq**  
who has satisfied us of proficiency in these subjects

*Zeev Glick*  
President

*[Signature]*  
Chair, Examinations Committee

Diplomate

# HOSPITAL QUALITY IMPROVEMENT EXPERIENCE

- UPDATED DEPARTMENT POLICY AND PROTOCOLS AT SALMANIYA MEDICAL COMPLEX,BAHRAIN.
- ORGANIZED ULTRASOUND-GUIDED REGIONAL ANESTHESIA WORKSHOP AT KHUH(BAHRAIN).
- DEVELOPED PATIENT INFORMATION LEAFLETS ON
- CAUDAL ANESTHESIA AND UPPER/LOWER- LIMB REGIONAL BLOCKS.
  - GENERAL ANESTHESIA
  - EPIDURAL ANESTHESIA
  - FEVER
  - PROPER IDENTIFICATION OF PATIENT
- DEVELOPED TOOLS TO STANDARDIZE CLINICAL PRACTICE
  - SBAR
  - LOOK A LIKE SOUND A LIKE MEDS
  - PEDIATRIC PAIN ASSESSMENT TOOL
- LED QUALITY IMPROVEMENT INITIATIVES TARGETING ANESTHESIA CONSENT COMPLIANCE KPIS AND IMPLEMENTED PDCA CYCLES TO OPTIMIZE CONSENT FORM COMPLETION RATES |2023
- KPIS: SURGICAL CANCELLATIONS & ANESTHESIA MONITORING: IMPROVING ANESTHESIA PRACTICES |2023
- ENHANCING QUALITY IMPROVEMENT INITIATIVES: AUDITS ON DIFFICULT INTUBATION CASES WITHIN THE ANESTHESIA DEPARTMENT |2023 ENHANCED ANESTHESIA DEPARTMENT'S CONSENT POLICY FOR QUALITY IMPROVEMENT |2023
- ENHANCED QUALITY PRACTICES: INTRODUCED AND IMPLEMENTED THE GUIDELINES FOR PREOPERATIVE ANXIOLYTIC PREMEDICATION IN THE ANESTHESIA DEPARTMENT|2023
- ENHANCING QUALITY STANDARDS: VENOUS THROMBOEMBOLISM (VTE) ASSESSMENT AND PROPHYLAXIS POLICY|2023
- ENHANCED THE ANESTHESIA MODULE WITHIN GOVERNMENT HOSPITAL'S HEALTH SYSTEM, 'ISEHA' | 2023
- COGNITIVE AIDS IN ANESTHESIA PRACTICE TO MANAGE CRISES AND EMERGENCIES IN BOTH ADULT AND PEDIATRIC PATIENTS: QUALITY IMPROVEMENT |2024

شكر وتقدير  
عيسى أحمد بشير

في إطار مشاركتكم الفعالة يسرنا أن نمنح هذه الشهادة لـ

على المشاركة الفعالة في تنظيم أسبوع بريف الدوة للقتال والذي يتضمن النسخة الرابعة من بطولة العالم لقبول القتال المختصة للهواة وطوله بريف و المحرر فين خلال الفترة من ١٢ لغاية ١٩ نوفمبر ٢٠١٧ وذلك بصفحتكم

عضو اللجنة الطبية  
لكم دوام التوفيق



الجمهورية العربية السورية  
الجمهورية العراقية  
الجمهورية اللبنانية  
الجمهورية التونسية  
الجمهورية الجزائرية  
الجمهورية المغربية  
الجمهورية الجزائرية  
الجمهورية التونسية  
الجمهورية المغربية  
الجمهورية الجزائرية

COMBATWEEK  
BARCELONA 2017

2017 IMAF  
WORLD CHAMPIONSHIPS  
AMATEUR MMA  
MANAMA SAUDI ARABIA

BEAVES  
THE KINGDOM OF CHAMPIONS

INFORMATION: WWW.IMAF.SAES | ENMATED  
12 - 19 NOVEMBER 2017  
KHALIFA SPORT CITY ARENA

**TRACOE**

**Certificate of Attendance**

**Dr. Owais Ahmed**

has participated in the *Advanced Airway Workshop*, on January 11th, 2018 in the Department of Anesthesia, Salmaniya Medical Complex, Manama - Kingdom of Bahrain

The training consisted of the following subjects:

- Tracheostomy cannula types and their specific applications
  - The percutaneous dilation tracheostomy (PDT)
- Tracheostomy product and PDT performance training on mock-ups.

Held by TRACOE medical GmbH

*Dr. Hazem Alashi*  
Chairman of Anesthesia Department

*Mr. Kai Hille*  
Regional Manager Tracoe

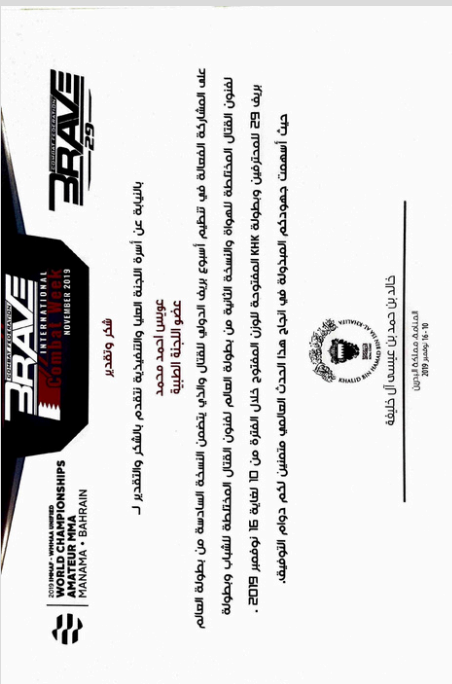
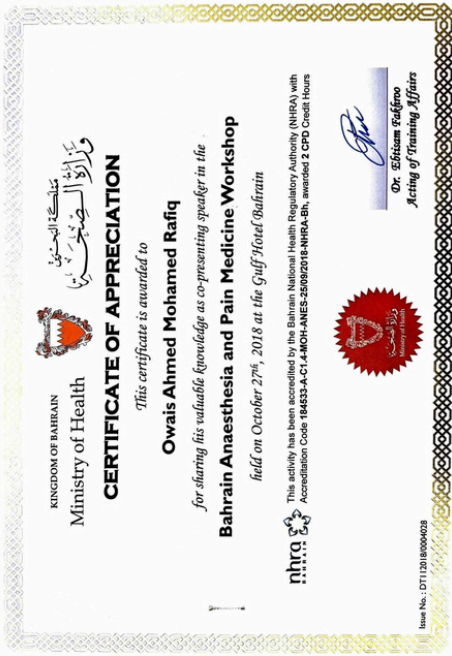
Dr Oweis Rafiq

LANGUAGES

English  
Arabic  
Urdu

EDUCATIONAL & DEVELOPMENTAL COURSES

- HONORED TO BE INVITED TO PRESENT AT THE CROWN PRINCE CENTRE FOR TRAINING AND MEDICAL RESEARCH ON JAN 10, 2024, A COURSE ON THE UPPER RIGID ENDOSCOPY COURSE.
- LECTURE PRESENTATION, TURPSYNDROME | SALMANIYA MEDICAL COMPLEX | 2018
- LECTURE PRESENTATION, PRE, PERI, AND INTRAOP MANAGEMENT OF DELIRIUM | SALMANIYA MEDICAL COMPLEX | 2018
- LECTURE PRESENTATION, ANESTHESIA CONSIDERATION IN LVAD PATIENTS FOR NON-CARDIAC SURGERY | SALMANIYA MEDICAL COMPLEX | 2018
- LECTURE PRESENTATION, PEDIATRIC ANESTHETIC CONSIDERATION | SALMANIYA MEDICAL COMPLEX | 2017
- LECTURE PRESENTATION, SEDATION & ANALGESIA IN ICU | SALMANIYA MEDICAL COMPLEX | 2016
- LECTURE PRESENTATION, ANESTHETIC CONSIDERATION IN MORBID OBESE | SALMANIYA MEDICAL COMPLEX | 2015
- LECTURE PRESENTATION, UPPER LIMB BLOCKS | SALMANIYA MEDICAL COMPLEX | 2015
- LECTURE PRESENTATION, ASSESSMENT OF DIFFICULT AIRWAY | SALMANIYA MEDICAL COMPLEX | 2014
- LECTURE PRESENTATION, HEMODYNAMIC MONITORING | SALMANIYA MEDICAL COMPLEX | 2013



# RESEARCH EXPERIENCE

## JOURNAL OF CLINICAL PEDIATRIC RESEARCH

EDITORIAL BOARD MEMBER | DEC 2023 - PRESENT

- PEER REVIEW: LEARNING CURVES FOR FIBEROPTIC OROTRACHEAL INTUBATION GUIDED BY THE NASOPHARYNGEAL AIRWAY | MARCH 2024
- RCT LAP TAP VS SKIN INFILTRATION IN CHILDREN UNDERGOING LAPAROSCOPIC APPENDECTOMY | 2023
- MANAGEMENT OF PEDIATRIC AIRWAY EMERGENCIES, A SYSTEMATIC REVIEW | 2023
- RESIDUAL NEUROMUSCULAR BLOCKADE AND POSTOPERATIVE PULMONARY COMPLICATIONS IN THE POST ANESTHESIA CARE UNIT: A PROSPECTIVE OBSERVATIONAL STUDY | 2023
- PEER REVIEW: COMPARISON OF ULTRASOUND-GUIDED VERSUS PALPATORY METHOD OF POSTERIOR TIBIAL ARTERY CANNULATION: A PROSPECTIVE RANDOMIZED CONTROLLED STUDY (DEC 13, 2023)
- PEER REVIEW: UNEXPECTED PRESENTATION OF TRACHEOESOPHAGEAL FISTULA DURING INTUBATION IN A PEDIATRIC PATIENT (DEC 10, 2023)
- PEER REVIEW: MANAGEMENT OF A PATIENT WITH ANKYLOSING SPONDYLITIS AND MULTIPLE COMORBIDITIES WHO UNDERWENT A PERCUTANEOUS NEPHROLITHOTOMY USING AN INNOVATIVE POSITIONING STRATEGY (DEC 27, 2023)
- PEER REVIEW: UNEXPECTED PRESENTATION OF TRACHEOESOPHAGEAL FISTULA DURING INTUBATION IN A PEDIATRIC PATIENT (DEC 10, 2023)
- CASE STUDY: SANJAD SIKATI SYNDROME, A RARE ENTITY | 2018
- THE EFFECT OF BOTOX ON JOINT PAIN IN SCD CASE-CONTROL STUDY | 2018

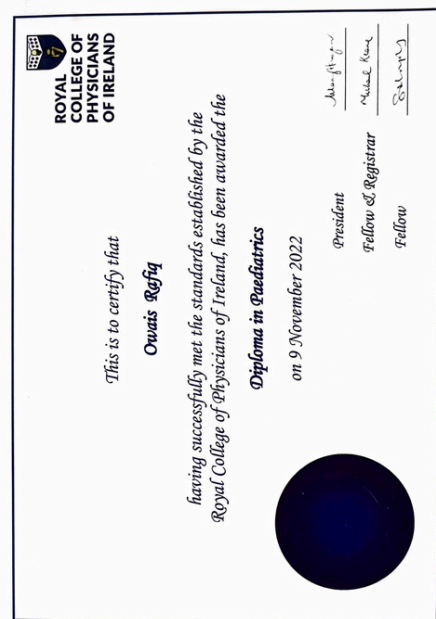
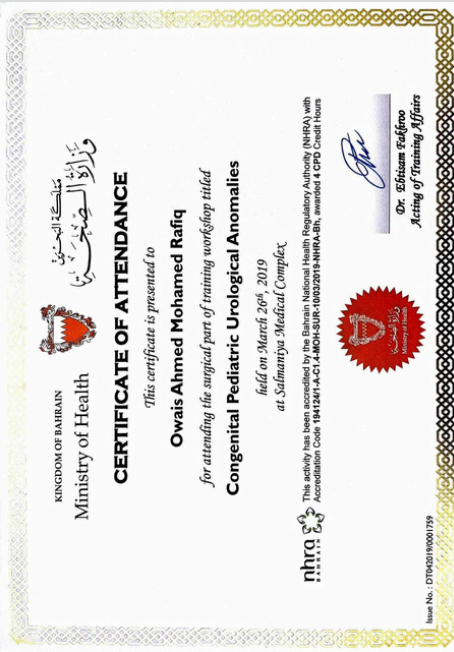


# AUTHORSHIP

**BRAVE KHALID'S VISIT TO THE HOSPITAL**  
 BRAVE KHALID'S VISIT TO THE HOSPITAL" IS AN  
 ENGAGING AND INSPIRING  
 BOOK THAT FOLLOWS THE STORY OF A YOUNG AND COURAGEOUS  
 PROTAGONIST  
 WHOSE DREAMS OF WINNING THE JUNIOR INTER-  
 SCHOOL CUP ARE SHATTERED  
 BY A LEG FRACTURE. AS KHALID IS RUSHED TO THE HOSPITAL,  
 HE EMBARKS ON A JOURNEY OF FACING HIS FEARS  
 AND PREPARING FOR HIS FIRST OPERATION. GUIDED  
 BY COMPASSIONATE MEDICAL PROFESSIONALS,  
 KHALID DISCOVERS  
 THE TRANSFORMATIVE POWER OF TRUST  
 AND FRIENDSHIP. THROUGH CAPTIVATING  
 ILLUSTRATIONS AND HEARTFELT STORYTELLING, THIS  
 BOOK NOT ONLY EDUCATES YOUNG READERS



ABOUT MEDICAL PROCEDURES BUT ALSO  
 ADDRESSES THEIR FEARS, EMPHASIZING THE RESILIENCE OF  
 YOUNG PATIENTS. IT IS A MUST-  
 READ FOR CHILDREN, PARENTS, AND CAREGIVERS ALIKE, OFFERING  
 AN EMPOWERING NARRATIVE WHERE  
 SETBACKS BECOME STEPPING STONES TO SUCCESS.  
 "BRAVE KHALID" WAS ALSO FEATURED AT THE MANAMA  
 HEALTH EXPO, AN IMPACTFUL EVENT. THIS PLATFORM  
 FOSTERED ENGAGING DISCUSSIONS, BOOK SIGNINGS,  
 AND CONNECTIONS WITH READERS, CONTRIBUTING TO  
 THE ONGOING SUCCESS OF THE BOOK.

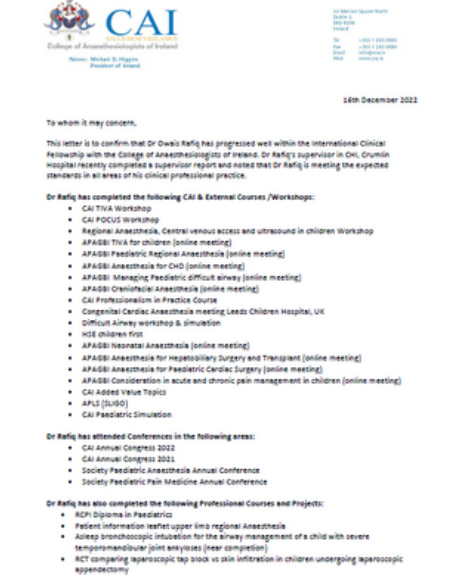




# AWARD

## PRINCE SALMAN BIN HAMAD MEDAL FOR MEDICAL MERIT

I AM HONORED TO RECEIVE THE PRESTIGIOUS PRINCE SALMAN BIN HAMAD MEDAL FOR MEDICAL MERIT FROM DR. AHMED ALANSARI, CEO OF GOVERNMENT HOSPITALS IN BAHRAIN. THIS RECOGNITION HIGHLIGHTS MY DEDICATION AND CONTRIBUTIONS TO THE FIELD OF MEDICINE, PARTICULARLY IN BAHRAIN. IT MOTIVATES ME TO CONTINUE PROVIDING EXCEPTIONAL HEALTHCARE AND MAKING A POSITIVE IMPACT ON PATIENTS' LIVES.



# COMMUNITY WORK

## EXPERIENCE DURING COVID-19 PANDEMIC 2019-2020

DURING THE COVID-19 PANDEMIC WAS POSTED IN SITRA FIELD ICU WORKING IN A REMOTE AREA COVERING AS A TEAM LEADER OF THE ICU TEAM MANAGING SEVERE COVID-19 PNEUMONIA. MANAGED A TEAM OF ANESTHESIA PHYSICIANS MANAGING SEVERE COVID-19 PNEUMONIA.



Advanced Cardiovascular Life Support

**medtigo** **ACLS PROVIDER**

Owais Ahmed Mohamed Bashir Mohamed Rafiq

This card certifies that the person listed above has successfully completed the Advanced Cardiac Life Support curriculum and examination offered by medtigo based on the latest Emergency Cardiovascular Care (ECC) guidelines.

05/02/2023 05/02/2025

Issue Date Recommended Renewal Date

Advanced Cardiovascular Life Support

Training Center: **medtigo Health Education**

Training Course Number: **MEDT-ACLS-CD1** Provider Number: **526255**

Editor Number: **MEDT-PH-CV01** Editor's Signature: *Owais Ahmed Mohamed Bashir Mohamed Rafiq*

Provider's Signature: *Owais Ahmed Mohamed Bashir Mohamed Rafiq*

## HEALTH CAMPS

- PARTICIPATED IN A FREE MEDICAL CAMP ORGANIZED BY APPS MIDDLE EAST IN COLLABORATION WITH SHAHZAIB CLUBHOUSE ON FEB 9, 2024. PROVIDED HEALTH CHECKUPS AND VALUABLE INSIGHTS FOR PARENTS OF SPECIAL CHILDREN.
- PARTICIPATED IN A FREE EYE HEALTH AWARENESS CAMP TO EDUCATE INDIVIDUALS ABOUT THE RISK FACTORS ASSOCIATED WITH CATARACT DEVELOPMENT | 2024



College of Anaesthesiologists of Ireland

**CAI**  
SALUS DUM VIGILAMUS  
College of Anaesthesiologists of Ireland  
Patron: Michael D. Higgins  
President of Ireland

he/she/they certify that

Dr. Owais Ahmed Mohamed Bashir Mohamed Rafiq

has completed the approved programme of Specialist Training in

Paediatric Anaesthesiology

For award of the International Fellowship

Dated the Eight day of January 2023

*[Signature]*  
President

*[Signature]*  
Vice President

Salmaniya Medical Complex Intern't Training Center

Training Center Name

ZZ21582

Training Center ID

TC City, Country

Training Site Name

Instructor Name

Instructor ID

Alfrah Aljamri 22117168981

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BLS Provider

Owais Ahmed has successfully completed the cognitive and skills evaluations in accordance with the curriculum of the American Heart Association Basic Life Support (CPR and AED) Program.



Issue Date 13 Feb 2023  
Renew By Feb 2025  
eCard Code 235603548736

To view or verify authenticity, students and employers should scan this QR code with their mobile device or go to <https://eCards.heart.org/international>.

# COMMUNITY WORK

## SPORTS & FITNESS

- ASSISTANT MEDICAL DIRECTOR FOR THE BAHRAIN MEDICAL TEAM AT THE 2018 WORLD CHAMPIONSHIPS MMA IN BAHRAIN
- RINGSIDE PHYSICIAN AT THE 2017 WORLD CHAMPIONS HIPS AMATEUR MMA IN BAHRAIN, PROVIDING FIRST AID DURING FIGHTS AND CONDUCTING PRE- AND POST-FIGHT EXAMINATIONS.



## HEAD OF RESUSCITATION TEAM - BRAVE IMMAF ASIAN CHAMPIONSHIPS 2023

PRIORITIZING FIGHTER SAFETY, DELIVERING EXPERT MEDICAL CARE, AND OVERSEEING FIRST AID PROTOCOLS TO ENSURE SEAMLESS EVENT EXECUTION AND THE WELL-BEING OF PARTICIPATING ATHLETES.



### Journal of Clinical Pediatrics Research

ISSN: 2692-3457  
Vol 01, Issue 01, 2023  
Research Article

#### Management of Paediatric Airway Emergencies: A Systematic Review of Current Practice Guidelines and Clinical Outcomes

Mohamed Sameer Butt<sup>1</sup>, Owais Ahmed Kalfi<sup>2</sup>

#### Abstract

**Introduction:** Paediatric airway emergencies are a significant cause of morbidity and mortality in children. The purpose of this systematic review is to summarize current practice guidelines and clinical outcomes in managing paediatric airway emergencies.

**Methods:** A comprehensive search of electronic databases was conducted to identify relevant studies. Inclusion criteria were studies that reported on the management of paediatric airway emergencies. Data extraction and analysis were conducted based on pre-defined criteria.

**Results:** An overview of current practice guidelines from various organizations was provided, highlighting key recommendations for paediatric airway emergencies. A review of studies reporting clinical outcomes of paediatric airway emergencies showed variations in mortality rates and causes of death, as well as complication rates and types of complications such as respiratory failure, hypoxia, pneumonia, epiglottitis, laryngospasm, and emphysema.

**Discussion:** Comparison of guidelines and reported outcomes revealed areas of agreement such as the importance of early recognition and intervention in paediatric airway emergencies and disagreement with regard to the use of progressive airway management techniques such as intubation and surgical airway management. Potential explanations for discrepancies were discussed. Limitations of the review were also acknowledged, including potential publication bias and heterogeneity of study designs. Future research directions were suggested, such as the need for standardized data collection and reporting in clinical trials.

Butt MS | Volume 1 Issue 1 (2023) | Pages 079-101 (23) | Research Article  
Copyright: Butt MS, Kalfi OA, Management of Paediatric Airway Emergencies: A Systematic Review of Current Practice Guidelines and Clinical Outcomes | Clin Pediatr Res. 2023;1(1):79-101.  
DOI: <https://doi.org/10.26907/2692-3457.2023.0101079>

Specialist Emergency medicine, MBChB, FRCS, FRCA, Department of Emergency medicine, Hammersmith Hospital, London, United Kingdom or Ireland  
Specialist Paediatric Anaesthetist, MBChB, FRCA, FRCS, Department of Paediatric Anaesthetics, Hammersmith Hospital, London, United Kingdom  
Respected Dear Sir/ Madam  
Assigned Date: 04/04/2023  
Published Date: 04/04/2023  
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# DEVELOPMENT COURSES

- RCPI DIPLOMA IN PEDIATRICS - ROYAL COLLEGE OF PHYSICIANS OF IRELAND | 2022
- TIVA - COLLEGE OF ANESTHESIOLOGISTS IRELAND | 2022
- POCUS - COLLEGE OF ANESTHESIOLOGISTS IRELAND | 2022
- TIVA FOR CHILDREN - ASSOCIATION OF PEDIATRIC ANESTHESIA GREAT BRITAIN & IRELAND | 2021
- CONGENITAL CARDIAC ANESTHESIA - LEEDS SAFEGUARDING CHILDREN PARTNERSHIP |2021
- PROFESSIONALISM & PRACTICES - COLLEGE OF ANAESTHESIOLOGISTS OF IRELAND | 2021
- DIFFICULT AIRWAYS WORKSHOP & SIMULATION - COLLEGE OF ANAESTHESIOLOGISTS OF IRELAND | 2021
- POST-GRADUATE DIPLOMA GENERAL PEDIATRICS - ROYAL COLLEGE OF PHYSICIANS OF IRELAND | 2022
- PEDIATRIC ANESTHESIA - ASSOCIATION OF PEDIATRIC ANESTHESIA GREAT BRITAIN & IRELAND | 2021
- DIPLOMA IN ANESTHESIA AND INTENSIVE CARE - EUROPEAN SOCIETY OF ANAESTHESIOLOGY | 2017

# CONFERENCES & TRAINING SESSIONS

- SOCIETY OF PAEDIATRIC PAIN MEDICINE ANNUAL CONFERENCE | 2022
- CAI ANNUAL CONGRESS | 2022CAI ANNUAL CONGRESS | 2021
- SOCIETY OF PAEDIATRIC ANAESTHESIA ANNUAL CONFERENCE | 2021
- CHIEFORGANIZERANDHOSTATBAHRAINANESTHESIAAN DPAINCONFERENCE|2018
- INSTRUCTORFORREGIONALANESTHESIAACOURSEATBAHRAINANESTHESIAANDPAINCONFERENCE|2018
- ASSISTEDINORGANIZINGREGIONALANESTHESIAWORKS HOPATSALMANIYAMEDICALCOMPLEX|2015
- ORGANIZEDDIFFICULTAIRWAYWORKSHOPINBAHRAIN|2013

## Residual Neuromuscular Blockade and Postoperative Pulmonary Complications in the Post-anesthesia Care Unit: A Prospective Observational Study

Bethaina A. Buchery • Huan M. Fu • Dawid Rafiq • Nada Abdalrhman Almansoori • Zaina Abdalrhman Abdul Karim • Zeena A. Gawa • Jihad Ali Almesawi

Published: December 23, 2023

DOI: 10.7759/cureus.51013

### Abstract

#### Background

Neuromuscular blocking agents (NMBAs) are employed during general anesthesia induction for endotracheal intubation and to facilitate specific surgical requiring muscle relaxation. However, residual neuromuscular blockade (RNB) can lead to respiratory complications in post-anesthesia care units (PACUs). This study investigates RNB incidence in PACUs and its association with postoperative airway and respiratory issues.

#### Methods

A prospective observational study on patients undergoing general anesthesia with NMBAs was conducted at the Department of Anesthesia, Sabotage Medical Complex, Bahrain, over six months (April to September 2023). Train-of-four (TOF) ratios were calculated using an acceleromyograph upon PACU arrival. Data on demographics, postoperative variables, and postoperative complications were recorded.

#### Results

Among 82 patients, 30 (36.6%) had RNB upon PACU arrival. RNB incidence declined: 17.1% at 10 minutes, 6.1% at 20 minutes, and 2.4% at 30 minutes, resolving by 40 minutes. Demographics and procedure duration

showed no correlation with RNB. Postoperative respiratory complications affected 23.2% of patients, notably higher in those with RNB ( $p = 0.001$ ). Among patients with TOF >90% at PACU arrival, 46.7% experienced complications compared to 9.9% with TOF <90% ( $p = 0.001$ ). Participants without RNB had a significantly higher weight ( $p = 0.046$ ). Airway support was required for 30% of patients, all with TOF <90% ( $p = 0.001$ ).

#### Conclusion

This study emphasizes the importance of assessing and monitoring neuromuscular function to detect and prevent RNB in PACUs. RNB presence correlated with an increased susceptibility to postoperative respiratory complications. Regular quantitative neuromuscular monitoring is advisable in clinical practice to proactively mitigate RNB incidence and its complications.

### Introduction

Neuromuscular blocking agents (NMBAs) serve to aid endotracheal intubation in general anesthesia induction and enhance muscle relaxation in specific surgical procedures [1,2]. These agents competitively antagonize acetylcholine nicotinic receptors at the neuromuscular junction, disrupting neuromuscular transmission [1].

Postoperative residual neuromuscular blockade (RNB), characterized by a train-of-four (TOF) ratio below 0.7, is linked to postoperative respiratory complications and various postoperative issues [3,4]. Such complications encompass upper airway muscle weakness, airway obstruction, impaired pleural/parietal function, increased aspiration risk, inadequate respiratory function recovery, and compromised bronchovascular response [5]. Recent investigations have connected postoperative RNB with a TOF ratio under 0.9 to postoperative respiratory complications [6]. The presence of postoperative respiratory complications significantly impacts the overall postoperative outcome, potentially resulting in prolonged recovery times [7].

Quantitative neuromuscular blockade assessment entails observing twitch fade via a TOF stimulation involving four sequential electrical nerve stimuli and evaluating their effects on the corresponding muscle [1].

In this prospective observational study, we aim to assess the incidence of postoperative RNB in the post-anesthesia care unit (PACU) and its correlation with

## Journal of Clinical Pediatrics Research

ISSN: 2692-2865  
Vol. 05, Issue 01, The 1st Issue  
Research Article

## Management of Paediatric Airway Emergencies: A Systematic Review of Current Practice Guidelines and Clinical Outcomes

Mohamed Immanuel Bhatti\*, Ovais Ahmed Rafiq\*

### Abstract

**Introduction:** Paediatric airway emergencies are a significant cause of morbidity and mortality in children. The purpose of this systematic review is to summarize current practice guidelines and clinical outcomes in managing paediatric airway emergencies.

**Methods:** A comprehensive search of electronic databases was conducted to identify relevant studies. Inclusion criteria were studies that reported on the management of paediatric airway emergencies. Data extraction and analysis were conducted based on pre-defined criteria.

**Results:** An overview of current practice guidelines from various organizations was provided, highlighting key recommendations for paediatric airway emergencies. A review of studies reporting clinical outcomes of paediatric airway emergencies showed variations in mortality rates and cause of death, as well as complication rates and types of complications such as respiratory failure, hypoxia, pneumothorax, aspiration, bradycardia, hypotension, and esophageal perforation.

**Discussion:** Comparison of guidelines and reported outcomes revealed areas of agreement such as the importance of early recognition and intervention in paediatric airway emergencies and disagreement with regard to the use of progressive airway management techniques such as intubation and surgical airway management. Potential explanations for discrepancies were discussed. Limitations of the review were acknowledged, including potential publication bias and heterogeneity of study design. Future research directions were suggested, such as the need for standardized data collection and reporting in clinical trials.

Key Words: Paediatric Airway Emergencies, Systematic Review, Current Practice Guidelines, Clinical Outcomes, Paediatric Airway Emergencies, Management of Paediatric Airway Emergencies, A Systematic Review of Current Practice Guidelines and Clinical Outcomes. | The full text is available at <https://doi.org/10.7759/cjpr.2024010101>

\*Specialist Registrar, Paediatric Intensive Care Unit, Department of Paediatric Intensive Care, Sabotage Medical Complex, Bahrain, Kingdom of Bahrain. | [immanuelbhatti@smc.gov.bh](mailto:immanuelbhatti@smc.gov.bh)  
\*Specialist Registrar, Paediatric Intensive Care Unit, Department of Paediatric Intensive Care, Sabotage Medical Complex, Bahrain, Kingdom of Bahrain. | [ovaisahmedrafiq@smc.gov.bh](mailto:ovaisahmedrafiq@smc.gov.bh)  
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Apr 07, 2024

Dear Ovais Rafiq,  
On behalf of the Cureus Journal of Medical Science, I am writing to you to confirm your participation in and submission of peer reviews for the following (3) articles (with review completion date in parentheses):

1. A Case Report of an Ultrasound-Guided Popliteal Sciatic Nerve Block: An Asset for Emergency Lower Limb Debridement in a High-Risk Patient (Mar 30, 2024)
2. A Case Report of an Ultrasound-Guided Popliteal Sciatic Nerve Block: An Asset for Emergency Lower Limb Debridement in a High-Risk Patient (Mar 30, 2024)
3. Coexistence of Alanto-Occipital Assimilation and Basilar Invagination: A Rare Case Report (Mar 03, 2024)
4. Effect of Neck Rotation With Flexion on Ultrasonographic Optic Nerve Sheath Diameter in Patients Undergoing Elective Craniotomy (Feb 22, 2024)
5. Propofol Sedation in Pediatric Upper Endoscopy: A Study of Pharmacokinetics and the Effects of Gastroenterologists, Anesthesiologists, and Supervised Participants on the Procedure Time and Sedation Time (Feb 02, 2024)
6. Ultrasound-Guided Artery Evaluation: Is it a Game Changer for Predicting Difficult Endotracheal Intubation? (Jan 13, 2024)
7. Management of a Patient With Analyzing Spondylitis and Multiple Comorbidities Who Underwent a Percutaneous Nephrostomy Using an Innovative Positioning Strategy (Dec 27, 2023)
8. Comparison of Ultrasound-Guided Versus Palpation Method of Posterior Tibial Artery Cannulation: A Prospective Randomized Controlled Study (Dec 13, 2023)
9. Unreported Presentation of Tracheoesophageal Fistula During Intubation in a Pediatric Patient (Dec 10, 2023)

On behalf of the entire editorial staff, I'd like to thank you for your continued support.

Best regards,

*Graham Parker-Finger*

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Director of Editorial Operations

## REFERENCES

Dear Oveis Rafiq,

On behalf of the Cureus Journal of Medical Sciences, I am writing to you to confirm your participation in and submission of peer reviews for the following (15) articles (with review completion date in parentheses):

1. Anesthetic Management of Patients with Morvan Syndrome: A Case Report and Literature Review (Apr 13, 2024)
2. A Case Report of an Ultrasound-Guided Popliteal-Sciatic Nerve Block: An Asset for Emergency Lower Limb Debridement in a High-Risk Patient (Mar 30, 2024)
3. A Case Report of an Ultrasound-Guided Popliteal-Sciatic Nerve Block: An Asset for Emergency Lower Limb Debridement in a High-Risk Patient (Mar 30, 2024)
4. Coexistence of Atlanto-Occipital Assimilation and Basilar Invagination: A Rare Case Report (Mar 03, 2024)
5. Effect of Neck Rotation With Flexion on Ultrasonographic Optic Nerve Sheath Diameter in Patients Undergoing Elective Craniotomy (Feb 22, 2024)
6. Propofol Sedation in Pediatric Upper Endoscopy: A Study of Pharmacodynamics and the Effects of Gastroenterologists, Anesthesiologists, and Supervised Participants on the Procedure Time and Sedation Time (Feb 06, 2024)
7. Ultrasound-Guided Artery Evaluation: Is It a Game Changer for Predicting Difficult Endotracheal Intubation? (Jan 13, 2024)
8. Management of a Patient With Arkylosing Spondylitis and Multiple Comorbidities Who Underwent a Percutaneous Nephrolithotomy Using an Innovative Positioning Strategy (Dec 27, 2023)
9. Comparison of Ultrasound-Guided Versus Palpation Method of Posterior Tibial Artery Cannulation: A Prospective Randomized Controlled Study (Dec 13, 2023)
10. Unexpected Presentation of Tracheoesophageal Fistula During Intubation in a Pediatric Patient (Dec 10, 2023)

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Graham Parker-Finger

Graham Parker-Finger  
Director of Editorial Operations

Dr Terence Montague  
Consultant Anesthesia & ICU  
CHI Crumlin, Ireland  
[Terence.montague@olchch.ie](mailto:Terence.montague@olchch.ie)

Dr.Hazem AlAali  
Chief of Surgical Staff,  
Consultant Anesthesia and Pain  
medicine  
Government Hospitals,  
Bahrain  
[drhazem2020@gmail.com](mailto:drhazem2020@gmail.com)

Dr.Zaina AbdulSattar  
HOD Anesthesia and pain  
management  
Government hospitals,  
Bahrain  
[ZRzaq@health.gov.bh](mailto:ZRzaq@health.gov.bh)

Dr.AzeezPasha  
Consultant Anesthesia & ICU  
Salmaniya Medical Complex,  
Bahrain  
[drazeezpasha@gmail.com](mailto:drazeezpasha@gmail.com)

