Department of Paediatrics
Lagos University Teaching Hospital (LUTH)

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Manual of Emergency Care 1st Edition
2013

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Dedication

Dedicated to Prof Olikoye Ransome-Kuti 1927-2003- the first indigenous Head of Department of Paediatrics, Lagos University Teaching Hospital who conceptualized and set up the children's emergency room with the first set of guidelines for management.
Preface

Early disease recognition and institution of proper therapy is the key to ensuring survival of the children that come to us for care. The idea of the emergency manual arose from the desire to guide decision making in diagnosis and management of children that present in the Emergency Ward of the department of Paediatrics. Following this, a committee was set up to produce a manual with a format of definition, aetiology, signs and symptoms, investigations, treatment and references. Where possible, interventions were to be based on best available evidence which should be rated A (systematic review of RCT) to E (expert opinion).

This manual therefore represents the work of residents and consultants working in the Department of Paediatrics, Lagos University Teaching Hospital between 2009 and 2010. It is a small book to fit the white coat pocket of a resident and so can be used in the ward, clinic and anywhere else needed. There are larger, more detailed textbooks on the management in paediatrics but this manual focuses on emergency care of the patient. There are useful documents including growth charts, normograms, blood pressure charts among others in the appendices.

The topics chosen are those relevant to our tropical
environment. A different manual for the subspecialty units in the Department will focus on all other diseases we commonly see in those units.

The topics are arranged in alphabetical order with appendices at the end and are mainly for doctors and other health professionals working in hospitals that attend to children with emergencies.

It is hoped that this manual will standardize medical care, raise quality of care and reduce risk. We are indebted to all the authors for their contributions towards the production of this manual.

We are also grateful to Prof JK Renner for reviewing the manual for publication.

Finally we acknowledge WHO for kindly granting us permission to reproduce the materials on the practical procedures from their publication.

Ekanem Ekure
Christopher Esezobor
Babayemi Osinaike
2013
Foreword

Having a manual to guide doctors in the care of patients continues in the long tradition of such publications such as the Harriet Lane handbook. Indeed, the publication of this manual serves as an opportunity to review current practice in light of new knowledge. It is recognized that efforts such as this goes a long way in standardizing practice, and ultimately improving the quality of care of our patients. In this era where clinical practice is carefully audited and patients become more litigation conscious, the need to have this publication becomes essential. It will also help protect the integrity of the patient-doctor interaction, especially in a high tension environment such as our children's emergency room. Historically, in this Department, some of the older staff will remember a typed document on foolscap paper edited by the late Professor Olikoye Ransome-Kuti, which served as a guide to medical students and house officers. Unfortunately, it was never updated and it quickly became outdated.

This manual represents months of collective hard work involving critically appraising the evidence and consensus opinion of experts where hard medical evidence was lacking or weak. We had chosen to start with conditions commonly seen in the children's emergency room with a view that in no distant future we should be able to have a manual for all common conditions seen in a busy tertiary centre.
I commend Dr. Ekanem Ekure and her committee for putting this manual together. Appreciation also goes to the printers for a professional and elegantly done job. Our expectation is that this manual will be used always.

Dr. Adebola Akinsulie

Professor and Head of Department.
Cyanosis in the Newborn

Definition:
Bluish discoloration of the skin and mucous membranes. Clinically apparent cyanosis is not usually visible until desaturated hemoglobin exceeds 3g/dl.

Aetiology:
- Cardiac causes
- Non-cardiac causes.

Fig 9: Aetiology of cyanosis in the newborn
**Respiratory diseases:**
- Respiratory distress syndrome of the newborn
- Pneumonia
- Meconium aspiration
- Perinatal asphyxia
- Choanal atresia
- Tracheo-esophageal fistula
- Diaphragmatic hernia
- Pneumothorax
- Pulmonary hypoplasia/ atresia
- Primary pulmonary hypertension

**Metabolic diseases:**
1. Hypoglycaemia
2. Infant of diabetic mother
3. Maternal phenylketonuria

**Central nervous system diseases:**
1. CNS depression (narcotics in mother, sedation during labour)

**Hematologic conditions:**
1. Polycythaemia
2. Methaemoglobunaemia.

**Others**
1. Shock

**Signs and symptoms that may be associated with cyanosis:**
- Respiratory distress
- Hepatomegaly
- Cardiomegaly
- Weak peripheral pulses
- Single second heart sound
**Acute management of the cyanotic newborn:**
Determine whether the aetiology is cardiac or non-cardiac in origin using the hyperoxia test.

**Hyperoxia test:** Administer 100% oxygen for 10mins; PaO2 >100mmHg, or Sao2 >95% excludes most cyanotic congenital heart diseases.

**Fig 10:** *Initial evaluation of the cyanotic newborn*

**Treatment:**
1. Resuscitate and admit into the NICU. (ABCD of resuscitation)
2. For respiratory diseases, maintain Sao2 >95% and Pao2>70mmHg
3. Correct hypotension/ Shock using intravenous ringer's lactate or normal saline (see section on shock). Use inotropic drugs where necessary (cardiac causes with heart failure/shock)
4. Specific treatment
   a. Correct metabolic or hematologic derangements e.g. hypoglycemia with intravenous 2ml/kg of 10% detransfusion if PCV>65%.
   b. PGE1 for duct dependent heart lesions
   c. Pulmonary vasodilator (Nitrous oxide) for persistent pulmonary hypertension of the newborn.
   d. Surfactant, mechanical ventilation, extracorporeal membrane oxygenation for respiratory failure.

References:
2. Cyanotic newborn (In A page: Pediatric signs and symptoms)- Wrong diagnosis.com