Summary of Standards for Paediatric Emergency Care

Expert Consensus Report for the Western Cape

Edited by:
Baljit Cheema
Anthony Westwood
Summary of standards for Paediatric Emergency Care

Expert Consensus Report for the Western Cape

NOTE: This document reports the consensus of an expert group convened by the Western Cape (WC) Department of Health (DoH). The standards recommended in this report have been presented to and reviewed by the Executive Committee of the WC DoH. Whilst the report is considered a valuable expert consensus document, it has NOT been approved for implementation and this document does NOT represent WC DoH official policy.

Edited by:

**Baljit Cheema** MB BS BSc MRCPCH DTM&H
Paediatric Emergency Specialist. Senior Lecturer, Division of Emergency Medicine, Faculty of Health Sciences, University of Cape Town, South Africa

**Anthony Westwood** MB, ChB, DCH, FCP(SA), MD
Associate Professor. Head: General Paediatrics, Metro West, Western Cape Department of Health, & Department of Paediatrics, Faculty of Health Sciences, University of Cape Town, South Africa

Copyright: Creative Commons Attribution and ShareAlike Licence

Licensees may copy, distribute, display and perform the work and make derivative works based on it only if they give the author or licensor the credits in the manner specified by these. Licensees may distribute derivative works only under a license identical to the license that governs the original work.

Suggested referencing for this document:

Summary of Standards for Paediatric Emergency Care: Expert Consensus Report for the Western Cape. Cheema, B & Westwood, A. 2015
CONTRIBUTORS:

Andrew Argent  
Professor, School of Child and Adolescent Health, University of Cape Town, South Africa  
Head of clinical unit, Paediatric Intensive Care, Red Cross War Memorial Children's Hospital,  
South Africa

Heloise Buys  
Head of Clinical Unit, Ambulatory and Emergency Paediatrics, Red Cross War Memorial  
Children's Hospital, Department of Paediatrics and Child Health, University of Cape Town, South  
Africa

Baljit Cheema  
Paediatric Emergency Specialist. Senior Lecturer, Division of Emergency Medicine, Faculty of  
Health Sciences, University of Cape Town, South Africa

Clare Davis  
Lecturer (Child Critical Care), Child Nurse Practice Development Initiative, University of Cape  
Town, South Africa

Michael Hendricks  
Associate Professor, District Paediatrician, New Somerset Hospital and Metro West,  
School of Child and Adolescent Health, University of Cape Town, South Africa

Peter W. Hodkinson  
Division of Emergency Medicine, Faculty of Health Sciences, University of Cape Town, South  
Africa

Michael Lee  
ALS Paramedic, Continuous Quality Improvement Manager, Emergency Medical Services, Cape  
Town, South Africa

Zanele Nxumalo  
Nurse Manager, Medical Emergency Unit, Red Cross War Memorial Children's Hospital, Cape  
Town, South Africa

Arina Schlemmer  
Family Physician, Kraaifontein Community Health Centre, Division of Family Medicine and  
Primary Care, Faculty of Medicine & Health Sciences, Stellenbosch University, South Africa

Liezl Smit  
Department of Paediatrics and Child Health, Faculty of Medicine & Health Sciences,  
Stellenbosch University, South Africa

Anthony Westwood  
Associate Professor. Head: General Paediatrics, Metro West, Western Cape Department of  
Health, & Department of Paediatrics, Faculty of health Sciences, University of Cape Town, South  
Africa
# Table of Contents

**EMERGENCY CENTRES**.................................................................................................................................. 6

ARRIVAL...................................................................................................................................................... 6

EC DESIGN................................................................................................................................................... 6

BATHROOM FACILITIES ............................................................................................................................. 7

EMS.............................................................................................................................................................. 7

SAFETY............................................................................................................................................................ 7

ENVIRONMENT............................................................................................................................................... 8

FOOD AND COMFORT .................................................................................................................................... 8

COMMUNICATION, REASSURANCE AND DISTRACTION ........................................................................... 8

CHILD RIGHTS, PARTICIPATION & CONSENT............................................................................................ 9

REPORTING OBLIGATIONS FOR ABUSE AND NEGLECT.......................................................................... 9

DIGNITY AND PRIVACY .................................................................................................................................. 9

TOOL AND TRAINING....................................................................................................................................... 10

PROCESS........................................................................................................................................................ 10

DOCUMENTATION AND EQUIPMENT ........................................................................................................ 10

COMPONENTS OF QUALITY EMERGENCY CARE OF CHILDREN IN ECS .............................................. 11

REFERRAL....................................................................................................................................................... 11

TRANSFER AND TRANSPORT.......................................................................................................................... 12

EC CLINICAL GUIDANCE.................................................................................................................................. 14

EC STAFFING STRUCTURE............................................................................................................................. 14

DOCTOR STAFFING STANDARDS ...................................................................................................................... 15

NURSING STAFFING STANDARDS .................................................................................................................. 15

STAFF WORKING HOURS AND STAFF RETENTION .................................................................................... 15

PAEDIATRIC TRAINING..................................................................................................................................... 16

TRIAGE TRAINING......................................................................................................................................... 16

RESUSCITATION TRAINING.............................................................................................................................. 16

COMMUNICATION AND TEAMWORK TRAINING......................................................................................... 16

FUNDING AND ATTENDANCE OF TRAINING COURSES............................................................................ 16

UNDERGRADUATE AND POSTGRADUATE TEACHING .......................................................................... 17

CONTINUING STAFF EDUCATION IN THE EC ............................................................................................ 17

THE ROLE OF HEALTH-CARE PROFESSIONALS AS TEACHERS............................................................... 17

FUNDING AND ATTENDANCE OF TRAINING COURSES............................................................................ 17

STRESS AND DEBRIEFING............................................................................................................................. 18
# Summary of Standards for Care of Children in Emergency Centres

## EC Design Standards

### Arrival

1. There must be clear signage to the EC.
   1.1. Signage indicating the quickest route to the EC must be clearly visible at all times of day.
   1.2. If children are seen in a different area of the hospital or EC at certain times of day, this must be clearly sign-posted.
   1.3. If certain entrances/passages are closed out of hours, alternative routes must be clearly sign-posted.

### EC Design

2. Children must have complete audio-visual separation from adult EC areas.
3. There must be no barriers to a child getting a swift initial triage assessment in the EC.
   3.1. Triage must take place before any reception or administrative processes.
   3.2. Security personnel must not block entry of carers with child-patients.
4. Child-patients must have a separate waiting area from adults.
5. The triage area or room:
   5.1. A separate triage area for children is strongly recommended for busier L2 and L3 ECs.
   5.2. If a combined adult and paediatric triage room is to be used, then children must be protected as far as possible from exposure to disturbing sights and sounds.
6. The resuscitation room:
   6.1. Resuscitation of children in the EC must take place in the designated resuscitation area and not in non-resuscitation areas such as the paediatric room.
   6.2. The resuscitation room in busier L2 and L3 ECs must have a designated paediatric bay.
   6.3. The resuscitation room in less busy units must have a bed/area that can be used for paediatric resuscitations.
7. Children triaged to the Orange category must be taken to the Majors area and have access to a bed or cot and monitoring.
   7.1. In busier L2 and L3 units a separate paediatric Majors areas is recommended.
7.2. In units where adult and paediatric majors are to be combined, EC design must incorporate adequate space for paediatric beds/cots within all EC Majors areas and these must be sheltered from view of the main adult Majors area.

8. All clinical areas where children may be assessed and examined must have railings and curtains for privacy.

9. Children’s areas of the EC must have sufficient space for a play area.

10. Ambient temperature must be regulated as children lose heat quickly.

**BATHROOM FACILITIES**

11. Toilet facilities must be clean and hygienic.

12. Soap, hand towels and toilet paper must be provided.

13. A safe and adequately sized nappy-changing area must be available.

14. Toilet-seat adaptors for small children must be provided.

15. Low toilet bowls (or safe steps) enabling children to reach the toilet and toilets with child-friendly flushing devices are recommended.

16. Low hand-basins with child-friendly taps are recommended.

**EMS**

17. Child patients:

17.1. A caregiver must be allowed to travel with the child – this can apply to young persons up to the age of 18 years.

17.2. Children must not be transported in the same ambulance as adult emergency patients unless it is in the child’s best interest to do so.

17.3. Where this cannot be avoided, child patients must not be transported with the following types of patients (unless it is in their best interests to do so):

- those with traumatic injuries;
- those with drug, alcohol or psychiatric problems;
- those with the risk of infectious disease risk (e.g. TB, viral illnesses);
- unstable adults requiring stabilisation en route; or
- those with any other distressing or potentially harmful conditions.

18. EMS staff must be aware of simple techniques of reassurance and distraction to reduce stress to the child.

**SAFETY**

19. Children within the EC must be safe from harm or abduction – ideally, the paediatric area must be access-controlled 24 hours a day.

19.1. If this is with security personnel, the station must be manned all the times.

19.2. Access control must not prevent or delay entry of sick children.
19.3. Access control points must not prevent those inside the paediatric area from seeing persons awaiting entry outside the area.
19.4. Access control must not prevent or delay sick children from being moved to resuscitation areas.

20. All children in the EC must be supervised by an adult at all times.
   20.1. If the carer needs to leave, then a member of staff must be informed and supervisory arrangements made until the carer returns.
   20.2. Parents of other children must not be asked to perform this role.

21. In all areas where children are seen (with the exception of the resuscitation area):
   21.1. All potentially harmful equipment (including sharps, sharps bins and garbage bins) must be secured in such a way as to be out of reach of children.
   21.2. All plug sockets must be fitted with child-proof devices.
   21.3. All electrical wiring must be safely secured.
   21.4. All drugs or medicines must be kept out of reach to children.

**ENVIRONMENT**

(See also Chapter 2: Infrastructure.)

22. Children must have complete audio-visual separation from adult EC areas.

23. Suitably child-friendly environments and distractions must be available. For example:
   - appropriate décor: paintings, murals, mobiles, colourful curtains and furnishings;
   - a play area with books, colouring items, toys, etc.;
   - a TV/DVD player with a range of cartoons or children’s movies; and
   - computer games for older children.

24. Adequate space must be provided for children and their families in waiting and clinical areas.

25. A ‘counselling room’ must be available for sensitive discussions.

26. Ambient temperature must be regulated as children lose heat quickly.

**FOOD AND COMFORT**

27. A breast-feeding room or area must be available for nursing mothers.

28. Formula milk and baby food must be available for young infants.

29. Food must be provided for carers, siblings and children who are waiting in the EC.

30. Nappies, in a full range of sizes, and nappy-changing facilities must be available.

**COMMUNICATION, REASSURANCE AND DISTRACTION**

31. Staff must communicate with both the carer and the child (where he or she is of an age to understand, and in an age-appropriate manner) about anticipated waiting times, possible diagnosis and any planned investigations or procedures that will take place in the EC.
32. Age-appropriate reassurance must be given to scared or nervous children.

33. Children must be allowed to ask questions about their health care.

34. Staff must be aware of distraction and play as means to reduce stress to the child. For example:
   - use of stories, bubbles, musical toys, books, etc.; and
   - badges and bravery certificates for children.

EC staff must not give false reassurance to children or their parents.

**CHILD RIGHTS, PARTICIPATION & CONSENT**

35. **Children must be recognised as holders of rights which are protected by law and these rights must be respected in emergency settings; in particular, the following rights must be upheld:**

   35.1 The best interests of the child.
   35.2 The child’s right to participate (be to be heard and taken seriously).
   35.3 The child’s right to guidance with respect to his or her evolving capacities.
   35.4 The child’s right to information and health education.

36. **The consent provisions of the Children’s Act must be adhered to:**

   36.1 If a child has the capacity to consent: Children who meet the necessary age and maturity requirements are required to give consent to treatment, surgery, HIV testing and the disclosure of their HIV-positive status.

   36.2 If the child does not have the capacity to consent: If the child is too young, or the health professional assesses him or her not to have the capacity to consent or refuse treatment, then the parents, guardian or caregiver must make the decision on his or her behalf.

   36.3 If the child’s parents, guardians or caregivers unreasonably refuse to give consent: In a medical emergency which is urgent and life-threatening, the superintendent of the hospital may give consent on their behalf.

   36.4 Consent for HIV testing: A child under the age of 12 years can consent to an HIV test if he or she is sufficiently mature to understand the benefits, risks and social implications of the test, but must be given appropriate pre- and post-test counselling.

**REPORTING OBLIGATIONS FOR ABUSE AND NEGLECT**

37. **All staff working with children in the emergency environment must be aware of the legal requirements, criteria and correct procedures regarding:**

   37.1 compulsory reporting of sexual abuse, physical abuse causing injury and deliberate neglect; and
   37.2 voluntary reporting of children in need of care and protection.
DIGNITY AND PRIVACY

38. A child has the right to dignity and privacy.

38.1. The child and/or parents must give consent for the child to be undressed.
38.2. The child must be covered with a sheet or blanket if undressed.
38.3. There must be curtains around the examination area.

39. Confidentiality: If a child or adolescent confides information and requests that it not be shared with his or her carer, the health-care professional must make every effort to maintain that confidentiality whilst acting in a manner that is in the best interest of the child and in keeping with the law. This may require consultation with the senior in the EC.

TOOL AND TRAINING

40. Children in the Western Cape should be triaged using the Paediatric version of revised South African Triage Scale (P-SATS).

41. All EMS staff must be fully trained in P-SATS use.
42. All EC nursing staff must be fully trained in P-SATS use.
43. All EC doctors must be familiar with P-SATS.

PROCESS

44. Patients presenting for emergency care must be able to enter the EC via a rapid and easily accessible entrance at any time of day or night without delays.

45. Triage must occur before any administrative or reception procedures.

46. All children should be visually inspected by a trained health professional immediately upon arrival.

47. Formal triage must take place within 15 minutes of arrival at the facility.

48. A senior nurse must be allocated to the triage area at all times.

49. It is unsafe for junior, agency or student nurses to work in triage if they have not been trained in triage. Even after training they must be closely supervised.

50. Time from triage to being seen by clinician should be within Provincial guidelines: Red – immediate; Orange < 10 minutes; Yellow < 60 minutes; and Green < 4 hours.

51. Any child waiting longer than deemed safe by their triage category must be re-triaged.

52. All mothers must be told to inform the triage nurse if their child’s condition worsens.

53. In epidemic or major-incident circumstances, triage systems and treatment priorities may need to change according to the facility’s Major Incident Plan, which must incorporate plans for ill or injured children.

DOCUMENTATION AND EQUIPMENT

54. Appropriate triage documentation paperwork must be available at triage.
55. Equipment necessary for triage of children must be available in the triage area.

56. Weighing scales for babies and children must be available.

57. Children must be weighed in kilograms and not pounds.

58. Resuscitation of critically ill children must not be delayed to get a weight – the weight can be estimated from age-based formulae or length-based tapes.

59. Triage data for children must be kept and regularly audited.

COMPONENTS OF QUALITY EMERGENCY CARE OF CHILDREN IN ECS

60. Recognition: Children with signs or symptoms of serious illness or with potential for deterioration must be rapidly identified through the implementation of a triage system.

61. Assessment and diagnosis: All clinicians in the EC must be trained to take a focused history, perform an appropriate examination, and correctly diagnose and manage paediatric patients.

62. Key treatments: The correct treatments should be given in a timely manner for emergency conditions in children in ECs.

63. Key bedside and laboratory investigations must be available and used only where they will enhance patient care.

   63.1 Laboratory services must be available 24/7.
   63.2 The results of key investigations must be returned within one hour for on-site laboratories and four hours for off-site laboratories.
   63.3 A dedicated system must be in place for reviewing all laboratory reports timeously to identify abnormal results for appropriate action.

64. Key imaging services must be available within a reasonable period of time for individuals who require these services.

   64.1 Images must be reported and available to EC staff within 24 hours.
   64.2 A dedicated system must be in place for reviewing all radiological imaging reports timeously to identify abnormal results for appropriate action.

65. Observations: Basic vital signs should be recorded at least hourly for all seriously ill children receiving emergency treatment in the EC.

66. Discharge: Safe discharge practices must be adhered to.

67. Documentation: Detailed, legible notes must be available from the time of arrival at triage through to the time of disposition of the patient from the EC.

REFERRAL

68. Referral pathways and processes must be agreed for all emergency centres (ECs) and must be prominently displayed and easily available.

69. All staff working in ECs (including locums) must be aware of paediatric referral pathways.
70. Each receiving institution must define a detailed list of paediatric conditions (medical, surgical and traumatic, as well as those relating to specialties, e.g. cardiology and ENT) that can be handled at that institution and provide it to its referral partners (including EMS).

71. All critically ill paediatric cases who are being referred must be discussed with the receiving medical facility.

72. If there is deterioration in the child’s condition prior to or during transport that requires more intensive care (e.g. intubation and ventilation), this needs to be communicated to the receiving facility so that the necessary resources can be made available prior to the patient’s arrival.

73. Locally agreed referral pathways must be followed – depending on local arrangements, referring clinicians may not need to discuss every case being referred but must do so in cases of uncertainty or where advice is needed.

74. The receiving facility must accept all critically ill paediatric cases from their drainage area regardless of bed availability.

75. If there is a shortage of an appropriate bed for a critically ill patient in the receiving institution, the patient must be accepted by and transferred to the EC of the receiving centre without delay.

76. At times of in-patient bed shortage it is the responsibility of the receiving institution’s bed-management team to invoke its escalation policy in keeping with the Western Cape’s Emergency Case Load Management Plan (ECLMP).

77. An unstable or critically ill child must NEVER be left at a lower level of care due to bed shortages at the receiving centre.

78. There should be a reliable, designated telephone number (ideally, mobile) that is carried 24 hours a day by the person designated as the receiving centre clinician call-taker for each specialty at the receiving institution. Rosters with these details must be kept in the Telephone Exchange and in the EC.

79. At the receiving facility, all referral calls must involve an experienced clinician (intern call-takers may not give advice or refuse referral of a child without senior input).

80. Duties of the receiving-centre clinician call-taker:

80.1 A patient-centred approach must be adopted from the outset.
80.2 The best interests of the child and family must be put ahead of any other concerns.
80.3 The receiving-centre clinician call-taker has a duty to find out details of the child’s condition and to provide advice to optimise stabilisation prior to transfer.
80.4 Inform the referring clinician about the details of where the child needs to be sent to in the receiving hospital.

81. The receiving centre should maintain a logbook or database of all referral calls.

82. In-patient specialties that accept children to a facility directly must communicate and liaison with the EC if the patient is to be received in the EC.

83. A comprehensive referral letter should accompany every child being referred.
84. All relevant clinical information must be sent with the patient, including radiology films and laboratory results.

85. An incident-reporting mechanism must be available at both the referring and receiving facility for reporting any problematic referrals.

86. The patient remains the responsibility of the referring doctor until such time as he or she (the patient) reaches the receiving hospital (Western Cape ECLMP 7.1.4).

**TRANSFER AND TRANSPORT**

87. Retrieval teams must be available for the transfer of critically ill children and neonates.

88. When requesting transport of critically ill children, the referring facility must ensure that the severity of the child’s condition is effectively communicated to the call-taker at the EMS Communications Centre (including, at a minimum, triage colour, vitals, special equipment, and the urgency and level of the EMS crew required).

89. Effective verbal and written communication during patient handovers must take place between EMS practitioners and doctors from receiving and referring ECs. The DeMIST handover procedure is the minimum handover that must occur.

90. Prior to departure, the EMS crew responsible for the management of the patient must independently assess the child’s clinical condition and suitability for transport and familiarise themselves with the treatment already undertaken.

91. The EMS Communications Centre or EMS crew (if able) must notify the receiving EC of the estimated time of arrival, the condition and medical interventions initiated in critically ill children prior to their arrival at the EC (if not already informed).

92. For all transports and transfers of critically ill children, a clearly defined communication system (trunking radio/telephone) must be available between the EMS crew effecting the transfer and the medical team receiving the patient.

93. EMS crews that do not feel comfortable about effecting the transport of a critically ill child (due to lack of necessary equipment or suitable qualifications) must voice their concerns to the referring physician so that the referring physician can initiate further treatment to stabilise the patient and/or arrange alternative transport with a more qualified EMS crew. The EMS crew must help to facilitate communication with the EMS Communications Centre in order to expedite transport of the child with an alternative EMS resource if appropriate.

94. Critically ill paediatric patients must not be conveyed along with adult patients for the purposes of inter-facility transfers unless it is in the child’s best interests to do so.

95. Critically ill or injured paediatric/neonatal patients who fit the criteria of the Paediatric Emergency Call Out Pathway protocol must be transported by the Paediatric Flying Squad (PFS) or a suitably equipped Advanced Life Support crew if PFS is not available.

96. All emergency care practitioners must be aware of the closest most appropriate medical facility to which paediatric emergencies must be transported.
97. In the absence of specific protocols (e.g. Paediatric Burns Referral Guidelines, Paediatric Polytrauma Referral Guidelines, etc.), EMS personnel must base the destination medical facility on the patient’s initial on-scene triage code.

98. To ensure the effective disposition of paediatric patients, pre-hospital EMS referral guidelines must be easily accessible to all EMS staff and ECs.

99. Any Advanced Life Support Paramedic tasked with effecting the inter-facility transport of a critically ill child or neonate must be proficient and up to date with advanced life support skills and knowledge for children and neonates.

100. No EC may refuse to assess and accept a child delivered by an ambulance, regardless of geographical origin or triage code.

**EC CLINICAL GUIDANCE**

101. Emergency Centre (EC) clinical guidance must be:

101.1. based on best available evidence;

101.2. locally relevant;

101.3. compatible across levels of care;

101.4. standardised;

101.5. easily accessible;

101.6. taught to staff;

101.7. taken into consideration by EC clinicians;

101.8. audited; and

101.9. regularly reviewed and updated.

102. Development of EC clinical guidance must:

102.1. be developed as part of a centrally coordinated process in order to ensure standardisation;

102.2. address common clinical conditions (based on local burden of disease);

102.3. include symptom-based approaches;

102.4. focus on the management in the initial 4-6 hours after presentation;

102.5. be presented in formats appropriate for the EC setting; and

102.6. include a date for review.

**EC STAFFING STRUCTURE**

103. The staffing structure of an EC must consist of a lead doctor and lead nurse who together guide a team of professionals assigned to work exclusively in the EC.

104. In mixed adult and paediatric ECs, there must be a designated nurse and doctor who act in an advocacy role for paediatric emergency care.
105. All EC staff must be appropriately trained to manage paediatric emergencies (see Chapter 9: Training).

106. All agency staff and locums must have the stipulated level of paediatric training if they are required to manage paediatric patients (see Chapter 9: Training).

107. Orientation to the EC must occur for any new staff member – whether permanent or temporary.

108. Staffing numbers must be appropriate for the design, workload and patient demographics of the EC and must be sufficient to ensure safe and efficient care of all patients.

109. Due consideration must be given to ensuring an adequate staff skill mix when rostering and allocating staff to specific areas:

109.1. An appropriately trained person must be dedicated to triage of children (see Chapter 4: Triage).

109.2. An appropriately trained nurse/doctor team dedicated to the resuscitation of children must be identified for every shift. An additional nurse dedicated to caring for the family during resuscitations is ideal.

### DOCTOR STAFFING STANDARDS

110. If the WCG: Health medical staffing model (Appendix C) is being used to calculate EC doctor staffing needs, the formula must be adapted to reflect the longer time taken to assess and manage children compared to adults. The recommended time per paediatric patient by intensity is as follows:

<table>
<thead>
<tr>
<th>Intensity</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minutes/patient</td>
<td>30</td>
<td>60</td>
<td>120</td>
</tr>
</tbody>
</table>

111. The senior on-call EC doctor must be available at all times for consultation by junior EC medical and EC nursing staff.

112. Specialist consultation must be easily and rapidly available should the need arise.

### NURSING STAFFING STANDARDS

113. In mixed adult and paediatric ECs, both general and paediatric nurses must be employed, with the proportion of paediatric nurses reflecting the paediatric workload of the unit (see Chapter 9: Training).

114. In mixed adult and paediatric ECs, any paediatric nurse on duty must be allocated to work with paediatric patients as far as possible.
STAFF WORKING HOURS AND STAFF RETENTION

115. In high-turnover ECs, doctors’ shift duration must not exceed eight hours. In low-turnover ECs, doctors’ shift duration must not exceed 12 hours.

116. A maximum shift duration of 12 hours must not be exceeded for EC nursing staff.

117. The maximum number of consecutive 12-hour shifts worked must be limited for both doctors and nurses. This should be inclusive of overtime/agency shifts.

118. Safe staffing standards must be maintained at all times, including when staff are on leave or away on training.

119. A staff retention plan must be in place.

120. A proportion of non-clinical time must be allocated to clinical members of staff, depending on their role, the intensity of the clinical work and additional responsibilities.

PAEDIATRIC TRAINING

121. Both medical and nursing undergraduate curricula must contain sufficient paediatric and paediatric emergency training to permit high-quality basic emergency care to be initiated for paediatric patients presenting at any level of health care.

122. ECs must ensure that adequate numbers of nurses have received specialist paediatric nurse training as stipulated in Table 4.

123. ECs must ensure that adequate numbers of doctors have received advanced additional paediatric training as stipulated in Table 4.

TRIAGE TRAINING

124. All nurses must receive training in the South African Triage Scale (SATS) at a level suitable to their role and facility level as stipulated in Table 5.

125. All doctors must be familiar with SATS.

126. Attendance on a formal SATS training course must occur prior to or as soon as possible after commencement of employment in the EC.

RESUSCITATION TRAINING

127. All staff must receive paediatric resuscitation training at a level suitable to their role and facility level (see appropriate tables for more information).

128. All multi-disciplinary team members likely to be involved in paediatric resuscitation must attend paediatric resuscitation courses.

129. Formal resuscitation training must be repeated at least as frequently as required by the governing body for that qualification.

130. Attendance at a formal triage/resuscitation training course must occur prior to or as soon as possible after commencement of employment in the EC.

131. Team simulation training using paediatric scenarios must occur in every EC.
132. Adult-only ECs must also have the required skills and equipment to resuscitate a child.

**COMMUNICATION AND TEAMWORK TRAINING**

133. All staff must receive training in communication skills and teamwork.

**FUNDING AND ATTENDANCE OF TRAINING COURSES**

(See Chapter 10: Teaching and Education in the Emergency Centre.)

**UNDERGRADUATE AND POSTGRADUATE TEACHING**

134. Teaching in paediatric emergency care must be included in all nursing and medical undergraduate curricula.

135. Teaching in paediatric emergency care must be included in paediatric, emergency medicine and family medicine registrar curricula.

**CONTINUING STAFF EDUCATION IN THE EC**

136. Regular EC staff teaching must include:

136.1 clinical topics relevant to the emergency care of children in the Western Cape;

136.2 clinical skills necessary to provide paediatric emergency care;

136.3 non-clinical skills necessary to work in an EC (e.g. communication with children and families); and

136.4 simulation team training using paediatric scenarios in the EC.

137. A structured emergency teaching programme including at least 25% paediatric emergency topics must be established.

138. Continuing staff education must include the full EC clinical team.

139. Paediatric emergency cases must be discussed at regular departmental mortality and morbidity meetings.

140. EC education leaders must be creative and flexible about how best to achieve learning in the EC environment.

**THE ROLE OF HEALTH-CARE PROFESSIONALS AS TEACHERS**

141. A lead person must be designated to organise and run the EC teaching programme.

142. Senior staff must be allocated a portion of non-clinical time in which they teach and supervise junior members of staff.

143. Health-care staff in positions requiring them to teach regularly must be facilitated in gaining formal education training.
FUNDING AND ATTENDANCE OF TRAINING COURSES

144. All staff must be permitted adequate paid time to attend stipulated training courses.

145. The cost of the stipulated training courses must be covered by the employer, with the understanding that failure to attend the course without reason will result in disciplinary measures.

146. Managers must request and be supplied with proof of course completion from the staff members on their return to work.

147. Safe staffing standards must be maintained at times when staff are attending training.

148. Community education must be provided about simple life-saving measures.

STRESS AND DEBRIEFING

149. A designated counselling/debriefing room must be available.

150. Every EC must have a standard operating procedure on how to facilitate family presence at resuscitation and how to support families whose children have required resuscitation.

151. There must be 24-hour access to a social worker, and social workers’ duty rosters must be on display in the unit for easy reference.

152. All health-care institutions must have a written policy on how to manage stress in the workplace.

153. During their EC orientation all new staff should be made aware of how to access the free 24-hour Independent Counselling and Advisory Services (ICAS) support service provided by the provincial Department of Health.

154. A culture of mutual psychological support must be encouraged.

155. Institutional budgets must ensure employee-wellness support services are provided.

156. Signage in key areas must indicate how the support service can be contacted and accessed.

157. Line managers must be trained to recognise and manage staff members displaying stress and know how to deal with, support and monitor the impaired members in a confidential and professional manner.

158. Personnel must be offered training/guidance in ‘how to break bad news’.

159. Following any critical paediatric events, both doctors and nurses must have access to the district paediatrician (or professional of equivalent level) for feedback and support.

160. After each major resuscitation/unusual event a team debriefing session with or without support from a counselling team should follow automatically.

PATIENT SAFETY

161. All EC staff and management must be made aware of the propensity for error in ECs so that they can help to recognise, reduce and mitigate the effects of errors.
162. EC staff and management must identify patient-safety priority areas for paediatric patients and implement improvements.

163. Regular data must be gathered on key quality and safety indicators – these must include paediatric indicators.

164. There must be a reliable way of keeping track of all children in the EC.

165. An escalation policy must be in place if children are waiting longer than permitted by their triage category.

166. Handover:

166.1 When handing over patients, all emergency staff (including EMS, nurses and doctors) must communicate so as to promote continued best-quality emergency care and protect patient safety at all times.

166.2 At shift changes, both nursing and medical staff must communicate about every child present in the EC, even those waiting to be seen.

166.3 Handovers must be standardised so that all key information is passed on.

167. Shift-work:

167.1 Staff must not work prolonged hours (see Chapter 8: EC Clinical Staffing For Paediatric Emergencies).

167.2 Shift patterns must take account of new scheduling patterns that are considered to be less detrimental to staff well-being and performance.

168. Paediatric-specific medication safety measures such as age/weight-appropriate dosing schedules and/or paediatric drug-dose calculators must be in place.

169. All paediatric drug doses administered in the EC must be checked by a second trained professional (doctor or nurse).

170. Infection control measures in keeping with national and international standards must be adhered to in ECs (e.g. strict hand-hygiene, safe distance between patients, separation of infectious patients).

171. The EC environment must be ‘child-proofed’ in terms of safety in all areas where mobile children may be seen (see Chapter 3: Child Rights and Child- and Family-Friendly Emergency Standards).

172. Paediatric beds in the EC:

172.1 Children triaged as Orange category must be taken to a Majors bed.

172.2 Child-patients must not share beds or stretchers in ECs or ambulances.

172.3 Carers must not be expected to hold children or babies in their arms for longer than two hours – if they are waiting longer than this, a safe, age-appropriate option must be provided on which the child can lie down.

172.4 It is unacceptable for children or babies to be placed on blankets on the floor.
### CQI

173. All ECs must have an operational CQI programme in place to provide ongoing monitoring of quality of care and compliance with patient-safety standards.

174. Policies for reporting, evaluating and learning from critical incidents, medication errors and other patient-safety events must be in place.

175. All ECs must hold monthly Mortality and Morbidity meetings.

176. The Child Healthcare Problem Identification Programme (ChildPIP) must be used to analyse any child deaths in the EC.

177. Paediatric patient chart reviews must be conducted regularly to evaluate actual clinical practice and adherence with clinical guidelines and standards.

178. Telephone referrals:
   - 178.1 The receiving-centre should maintain a logbook or database of all referral calls from local facilities.
   - 178.2 A senior doctor must review the logbook/database regularly. Statistics from the logbook/register should be collated and presented at monthly mortality and morbidity meetings.

### EQUIPMENT AND CONSUMABLES

179. All ECs must be fully equipped with paediatric resuscitation equipment and consumables catering for all ages as per Appendix E.

180. Paediatric resuscitation equipment and consumables must be kept in an organised, user-friendly and accessible location such as a designated paediatric resuscitation trolley.

181. Other essential equipment and consumables specified in Appendix F must be available in all ECs where paediatric patients may present.

182. The presence and functionality of paediatric resuscitation equipment and consumables must be checked every shift.

183. Following all resuscitation events, paediatric resuscitation equipment must be cleaned, checked and consumables restocked immediately.

184. All staff providing patient care must be trained and familiar with the paediatric resuscitation equipment used in their own EC.

185. ECs that do not routinely manage paediatric patients must have a minimum of a paediatric resuscitation kit with paediatric appropriate equipment and consumables.

### MEDICATIONS AND FLUIDS

186. All ECs receiving children must be equipped with an appropriate range of medications and fluids to deal with paediatric emergencies.

187. Resuscitation medication (catering to all paediatric age groups), as listed in Appendix J, must be immediately available in the resuscitation area of ECs.
188. Aids for the estimation of a child’s weight must be available in the resuscitation area.

189. Paediatric dosage guidelines for common emergency drugs must be immediately available in the resuscitation room of all ECs.

190. Emergency, post-resuscitation and stabilisation (Appendix K) must be available for rapid access in the EC.

191. Appropriate IV fluids for children must be available in the EC (Appendix L).

192. A range of analgesics appropriate for children must be available in the EC (Appendix M).

193. Routinely used drugs for treatment of common paediatric condition in the EC, as well as routine discharge medications for children (Appendix N), must be available in the EC.

194. Commonly needed discharge medications for children leaving the EC, during hours when pharmacy services are not available, must be pre-prepared, packaged and labelled by a pharmacist and regularly re-stocked.

195. An after-hours access system must be available for specific, unusual drugs.

196. Ideally pharmacy services must be available for 24/7 dispensing and consultation. At a minimum, on-site services must be available until 23h00 every day (including weekends).

197. EC medications must be appropriately stored and controlled by a pharmacist.

198. All facilities must have access to a 24-hour poison information centre.

199. Drugs for disaster situations must be available as per facility disaster planning.

200. ECs that do not routinely manage paediatric patients must have a minimum of a paediatric resuscitation kit with paediatric appropriate resuscitation and stabilisation medications as per Appendix I.

**EMERGENCY MEDICAL SERVICE (EMS) STANDARDS**

**EMS STAFFING**

201. All paediatric patients, in the pre-hospital environment, must be managed by the minimum of an Intermediate Life Support (ILS) crew member.

202. Basic Ambulance Assistants (BAA) must work under supervision at all times with all ambulances crewed with at least one Intermediate Life Support practitioner (with the exception of Advanced Life Support (ALS) ambulances).

203. A medical practitioner with pre-hospital expertise must be available for consultation 24 hours a day.

**TRAINING AND CONTINUED PROFESSIONAL DEVELOPMENT**

204. All emergency care practitioners must be competent in assessing, managing and safely transporting common paediatric emergencies to the nearest most appropriate medical facility. The assessment and appropriate treatment must be in accordance with prevailing, evidenced-based, best-practice protocols.

205. All emergency care practitioners must be competent in basic paediatric/neonatal life support.
206. ALS practitioners must be competent in advanced life support procedures for neonates and paediatrics.

207. In order to maintain competency in the emergency management of the critically ill child, all operational emergency medical services (EMS) practitioners (BLS, ILS and ALS) must be recertified as prescribed by designated courses.

208. Formal resuscitation training must be repeated at least as frequently as required by the governing body for that qualification.

209. The Human Resource Development (HRD) training department must structure their programmes to allocate at least 5 CPD points annually to paediatric emergency topics.

210. As per Skills Development Policy, all staff must be given the opportunity to attend approved and designated training courses which are required for competency in the assessment and management of paediatric emergencies during normal hours.

211. All ambulance bases (with the exception of satellite stations) must have access to suitable electronic teaching aids and audio-visual projection facilities as well as the required paediatric training equipment (e.g. paediatric manikins, cardiac monitor, rhythm simulator).

212. At least one paediatric case must be presented at every mortality and morbidity forum.

213. EMS staff must be aware of the concept, and the potential psychological benefits, of family presence during the resuscitation of a child.

CLINICAL CARE PROTOCOLS AND SCOPE OF PRACTICE

214. Management of paediatric emergencies must be guided by accepted up-to-date evidence-based regional and national resuscitation guidelines (e.g. WC EM Guidance, APLS).

215. All emergency care practitioners must have access to the latest protocols for their respective qualification as prescribed by the Health Professional Council of South Africa (HPCSA).

TRIAGE

216. All emergency care practitioners must be trained in the application of the South African Triage Scale (SATS).

DRUGS AND RESOURCES

217. All medications approved for use by emergency care practitioners by the HPCSA must be readily available.

218. Pre-calculated dose guidelines and approved weight formulae for children of all ages must available in the form of charts/cards and length-based drug dosage tapes.

219. Up-to-date, evidenced-based guidelines pertaining to paediatric emergency care must be available to all emergency care practitioners (e.g. HPCSA ALS, ILS and BLS guidelines, EM guidelines 2013).
220. A portable cooler-box/bag must be available for the storage of medications that need to be kept refrigerated on the ambulance (e.g. Lorazepam).

221. A dedicated medications fridge must be available for the on-site storage of medications that need to be kept refrigerated.

**EQUIPMENT**

222. Equipment to manage paediatric emergencies appropriate to qualification must be available in all ambulances.

**SECURING OF CHILDREN FOR TRANSPORT**

223. All equipment necessary for the safe transport and securing/immobilising paediatric patients of all ages must be available (e.g. car seats, transport incubators, immobilisations devices).

224. Guidance must be available for securing patients using mechanisms other than in stretchers.

225. Unless it is in the patient’s best interests, no baby, infant or child must be transported or transferred in the carer’s arms – such patients must be appropriately secured at all times. Unstable babies must never be put into kangaroo care for transportation.

226. Children must not share stretchers in ambulances.

**TRANSFERS AND TRANSPORT**

227. Retrieval teams must be available for the transfer of critically ill children and neonates.

228. When requesting transport of critically ill children, the referring facility must ensure that the severity of the child’s condition is communicated effectively to the call-taker at the EMS Communications Centre (including, as a minimum, triage colour, vitals, special equipment, urgency and level of EMS crew required).

229. During patient handovers effective verbal and written communication must take place between EMS practitioners and doctors from receiving and referring ECs. The DeMIST handover procedure is the minimum handover that must occur.

230. Prior to departure, the EMS crew responsible for the management of the patient must independently assess the child’s clinical condition and suitability for transport and familiarise themselves with the treatment already undertaken.

231. The EMS Communications Centre or EMS crew (if able) must notify the receiving EC of the estimated time of arrival and the condition of, and medical interventions initiated in, critically ill children prior to their arrival at the EC (if not already informed).

232. For all transports and transfers of critically ill children, a clearly defined communication system (trunking radio/telephone) must be available between the EMS crew effecting the transfer and the medical team receiving the patient.
233. EMS crews that do not feel comfortable effecting the transport of a critically ill child (due to lack of necessary equipment or suitable qualifications) must voice their concerns to the referring physician so that the referring physician can initiate further treatment to stabilise the patient and/or arrange alternative transport with a more qualified EMS crew. The EMS crew must help facilitate communication with the EMS Communications Centre in order to expedite transport of the child with an appropriate EMS resource.

234. Critically ill paediatric patients must not be conveyed along with adult patients for the purposes of inter-facility transfers unless it is in the child’s best interests to do so.

235. Critically ill or injured paediatric/neonatal patients who fit the criteria of the Paediatric Emergency Callout Pathway protocol must be transported by the Paediatric Flying Squad (PFS) or a suitably equipped ALS crew if PFS is not available.

236. All emergency care practitioners must be aware of the closest most appropriate medical facility to which paediatric emergencies must be transported.

237. In the absence of specific protocols (e.g. Paediatric Burns Referral Guidelines, Paediatric Polytrauma Referral Guidelines) EMS personnel must base the destination medical facility on the patient’s initial on-scene triage code.

238. To ensure the effective disposition of paediatric patients, pre-hospital EMS referral guidelines must be easily accessible to all EMS staff and ECs.

239. Any Advanced Life Support Paramedic tasked with effecting the inter-facility transport of a critically ill child or neonate must be proficient and up to date with advanced life support skills and knowledge for children and neonates.

240. No EC may refuse to assess and accept a child delivered by an ambulance, regardless of the child’s geographical origin or triage code.

**EMERGENCY MEDICAL DISPATCH**

241. In order for them to identify the possibility of a life-threatening paediatric emergency, EMS call-takers must be of a suitably trained professional level that includes their having the ability to interrogate the caller and utilise algorithmic template/questions.

242. Emergency Medical Dispatchers (EMDs) must correctly identify possible paediatric life-threatening emergencies and dispatch the nearest most appropriate EMS resource within the pre-defined acceptable time-frame.

243. EMDs must be aware of the triage categories of the South African Triage Scale and use the triage category in conjunction with the Paediatric Emergency Callout Pathway protocol to correctly identify the most appropriate resource to utilise when dispatching the inter-facility transport of critically ill or injured children.

244. Operational crews must have an easily accessible channel of communication whereby they can request expert consultation from an EMS Emergency Doctor on call or a Doctor at the receiving medical facility.
245. EMS call-takers must be able to give pre-arrival basic emergency first-aid instructions to callers in order to help provide the necessary assistance to the patient prior to the arrival of EMS crews.

246. Children less than one year old must not automatically be made Priority 1 (P1).

**CHILD- AND FAMILY-FRIENDLINESS**

247. A caregiver must be allowed to travel with the child – this can apply to young patients up to the age of 18 years.

248. Children must not be transported in same ambulance as adult emergency patients unless it is in the child’s best interests to do so.

249. Where this cannot be avoided, child patients must not be transported with the following types of patients (unless it is in their best interests to do so):

- those with traumatic injuries;
- those with drug, alcohol or psychiatric problems;
- those with the risk of infectious disease risk (e.g. TB, viral illnesses);
- unstable adults requiring en route stabilisation; or
- those with any other distressing or potentially harmful conditions.

250. EMS staff must be aware of simple reassurance and distraction techniques to reduce stress to the child.

**PATIENT SAFETY AND CONTINUOUS QUALITY IMPROVEMENT**

251. EMS staff and management must identify patient-safety priority areas for paediatric patients and implement improvements using established tools such as Plan-Do-Study-Act (PDSA).

252. Regular data must be gathered on key paediatric quality and safety indicators.

253. Handovers must be standardised so that all key information is passed on.

254. All EMS staff and management must be made aware of the propensity for error in the pre-hospital environment:

254.1 Practical aspects of error recognition and containment in the pre-hospital environment.

254.2 Common error producing conditions in the pre-hospital environment.

254.3 Recognition of biases in critical thinking in themselves and their colleagues.

255. Paediatric-specific medication safety measures such as age/weight-appropriate dosing schedules and/or paediatric drug-dose calculators must be in place.

256. Infection control measures in keeping with both national and international standards must be adhered to in the pre-hospital environment (e.g. strict hand-hygiene, safe distance between patients, not transporting infectious patients with healthy patients).
257. All districts must have a fully functional CQI programme in place to provide ongoing monitoring of quality care and compliance with patient-safety standards.

258. Policies for reporting, evaluating and learning from adverse incidents, medication errors, inappropriate referrals and other patient-safety events must be in place.

259. All districts must hold monthly mortality and morbidity meetings.

260. Paediatric Patient Report Form reviews must be conducted regularly to evaluate actual clinical practice and adherence to clinical guidelines and standards.