

APLS 6e manual updates

The following are changes made following publication of the APLS 6e manual. Some of these may be incorporated in reprints, but a full list is included here for completeness.

Summary of formal reprints

August 2016	Updates after first publish of 6e
January 2017	Resuscitation Council update – NLS algorithm
December 2018	Reprinted with amendments
August 2019	Reprinted with amendments

Chapter	Dates of changes noted below
Chapter 1 - Introduction	
Chapter 2 - Structured approach to paediatric emergencies	
Chapter 3 - Human factors	
Chapter 4 - The structured approach to the seriously ill child	
Chapter 5 - The child with breathing difficulties	August 2016
Chapter 6 - The child in shock	August 2016
Chapter 7 - The child with an abnormal pulse rate or rhythm	
Chapter 8 - The child with a decreased conscious level	
Chapter 9 - The convulsing child	August 2016, December 2018
Chapter 10 - Introduction to the seriously injured child	
Chapter 11 - Structured approach to the seriously injured child	August 2016
Chapter 12 - The child with chest injury	
Chapter 13 - The child with abdominal injury	
Chapter 14 - The child with traumatic brain injury	August 2016
Chapter 15 - The child with injuries to the extremities or the spine	
Chapter 16 - The burned or scalded child	
Chapter 17 - The child with an electrical injury or drowning	September 2019
Chapter 18 - Basic life support	
Chapter 19 - Support of the airway and ventilation	December 2017, April 2018
Chapter 20 - Management of cardiac arrest	December 2017, April 2019
Chapter 21 - Practical procedures: airway and breathing	
Chapter 22 - Practical procedures: circulation	July 2017, November 2018
Chapter 23 - Practical procedures: trauma	
Chapter 24 - Imaging in trauma	
Chapter 25 - Structured approach to stabilisation and transfer	
Appendix A - Acid–base balance	
Appendix B - Fluid and electrolyte management	
Appendix C - Child abuse and neglect	
Appendix D - When a child dies	
Appendix E - General approach to poisoning and envenomation	
Appendix F - Resuscitation of the baby at birth	January 2017
Appendix G - Formulary	April 2018

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Chapter 5

Page	Change	Date
56	Text should read "The majority of foreign bodies are radio-lucent and therefore not visible ..."	August 2016

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Chapter 6

Page	Change	Date
73	Instead of 0.3 mg/kg for the Dopamine dose, it should be 30 mg/kg	August 2016
77	Update text dinoprostone or alprostadil	August 2016

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Chapter 9

Page	Change	Date
102	Update 'APLS Status Epilepticus' algorithm to add PR after the dose of Paraldehyde	August 2016
102	Max doses added to algorithm	December 2018

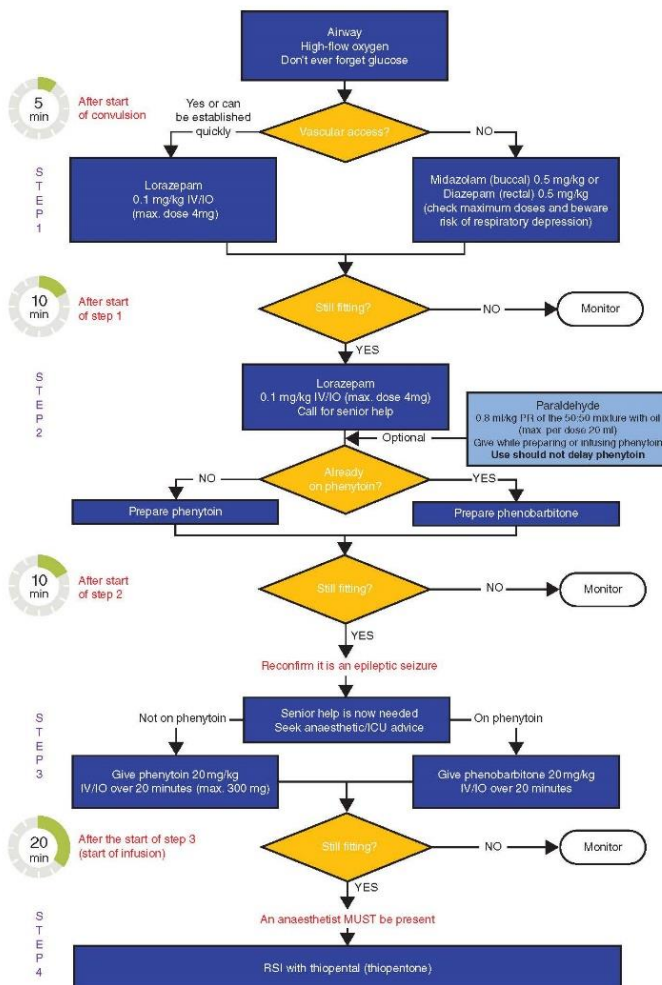
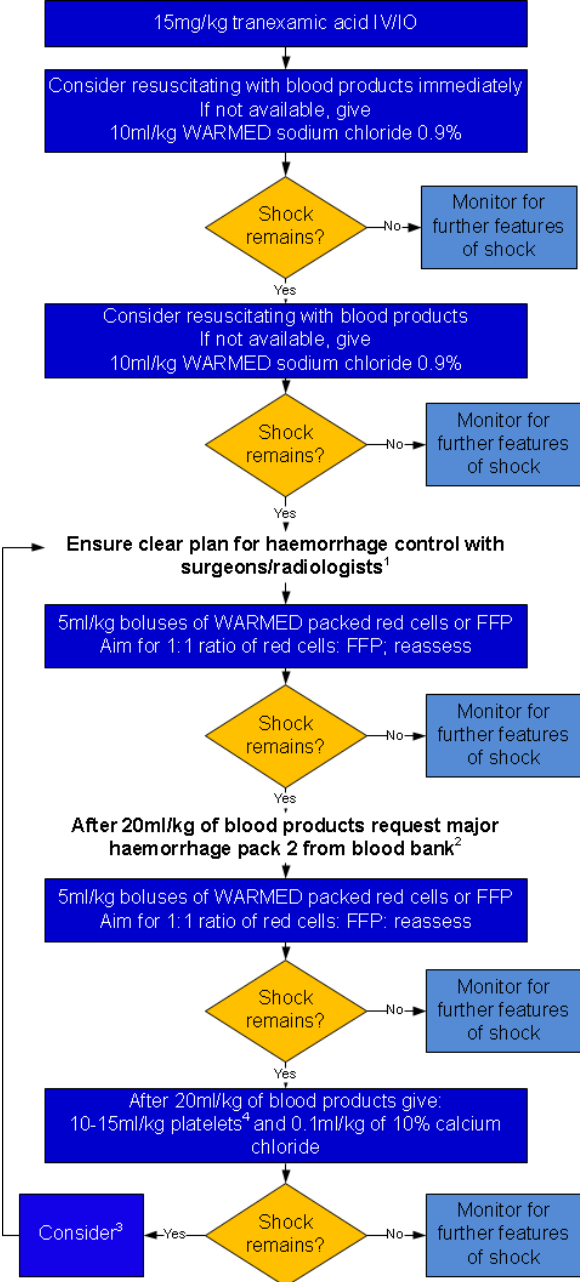


Figure 9.1 Status epilepticus algorithm. [ICU, intensive care unit; RSI, rapid sequence induction]

Chapter 11

Page	Change	Date
120	<p>Revised Figure 11.2</p>  <p>15mg/kg tranexamic acid IV/IO</p> <p>Consider resuscitating with blood products immediately If not available, give 10ml/kg WARMED sodium chloride 0.9%</p> <p>Shock remains?</p> <p>Monitor for further features of shock</p> <p>Consider resuscitating with blood products If not available, give 10ml/kg WARMED sodium chloride 0.9%</p> <p>Shock remains?</p> <p>Monitor for further features of shock</p> <p>Ensure clear plan for haemorrhage control with surgeons/radiologists¹</p> <p>5ml/kg boluses of WARMED packed red cells or FFP Aim for 1:1 ratio of red cells: FFP; reassess</p> <p>Shock remains?</p> <p>Monitor for further features of shock</p> <p>After 20ml/kg of blood products request major haemorrhage pack 2 from blood bank²</p> <p>5ml/kg boluses of WARMED packed red cells or FFP Aim for 1:1 ratio of red cells: FFP; reassess</p> <p>Shock remains?</p> <p>Monitor for further features of shock</p> <p>After 20ml/kg of blood products give: 10-15ml/kg platelets⁴ and 0.1ml/kg of 10% calcium chloride</p> <p>Shock remains?</p> <p>Monitor for further features of shock</p> <p>Consider³</p> <p>¹ Plan for haemorrhage control</p> <ul style="list-style-type: none"> • Monitor blood gases • Keep ionised calcium level above 1mmol/litre with 0.1ml/kg of 10% calcium chloride • Treat potassium level above 6mmol/litre with bolus 0.1 units/kg insulin actrapid and 10ml/kg 10% dextrose • Monitor haemoglobin on blood gases, do not push higher than 12g/dl • Keep platelets above 100×10^9 <p>Arrange anaesthetic assessment for intubation and ventilation</p> <p>² Major haemorrhage pack</p> <p>Major haemorrhage pack contains packed red cells, FFP and platelets</p> <p>³ Consider</p> <ul style="list-style-type: none"> • Consider 10ml/kg cryoprecipitate to keep fibrinogen at least 1g/l • Consider activated factor VII (Novoseven) after 2 cycles if continued bleeding • Discuss with consultant haematologist <p>⁴ Platelet count needs to be $> 50 \times 10^9$ and fibrinogen at least 1g/l. It is important to monitor this to achieve the correct level</p>	August 2016

Chapter 14


Page	Change	Date
144	Second paragraph regarding neuroprotection should read "Hypertonic saline 3%..."	August 2016

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Chapter 17

Page	Change	Date
165	<p>Change to statement on prophylactic antibiotics:</p> <p>Prophylactic antibiotics have not been shown to be helpful but are often given after immersion in severely contaminated water. Fever is common during the first 24 hours but is not necessarily a sign of infection, which usually becomes manifest later. When an infection is suspected broad-spectrum intravenous antibiotic therapy (such as cefotaxime) should be started after repeating blood and sputum cultures. Gram-negative organisms, especially <i>Pseudomonas aeruginosa</i>, are common and <i>Aspergillus</i> species have been reported, in which case, a combination antibiotic treatment is advised with reference to local guidelines.</p>	September 2019

Chapter 19

Page	Change	Date
129	The manual refers to the use of an occlusive dressing for a sucking chest wound, this should be a 3-sided dressing	December 2017
190	<p>Replacement figure 19.2</p> 	April 2018

Chapter 20

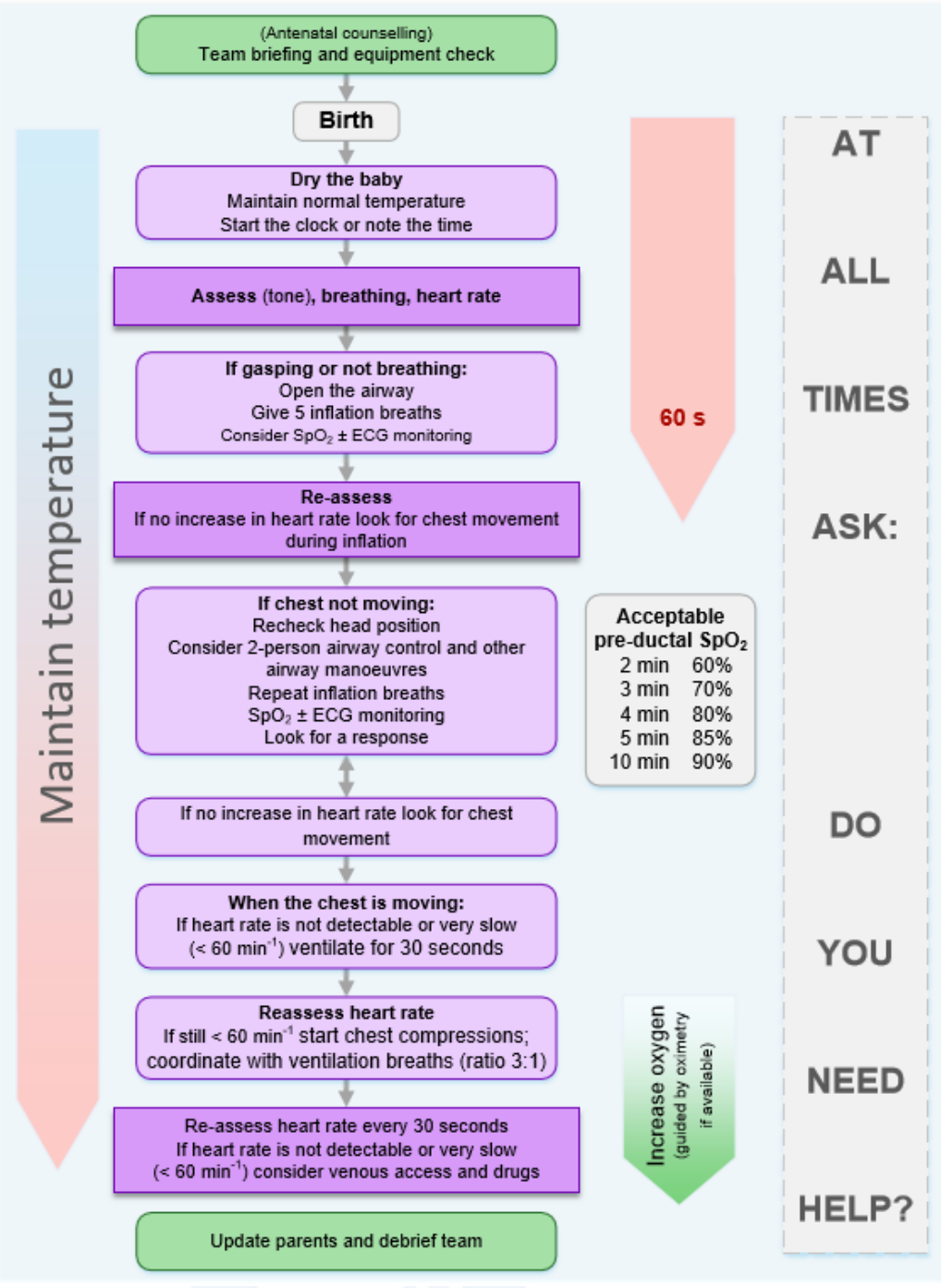
Page	Change	Date
205	The manual refers to the use of defibrillator paddles for neonates because the hands-free pads are too big. If there are small enough pads available, then these should be used. If not, then manual paddles would be used.	December 2017

Page	Change	Date
206	<p>Replacement paragraph on Capnography</p> <p>Capnography</p> <p>'Monitoring of exhaled, end-tidal CO₂ (ETCO₂) can be helpful in the management of cardiac arrest. The presence of ETCO₂ is expected during CPR, although it is likely to be much lower than normal due to poor pulmonary perfusion. An ETCO₂ of less than 2kPa (15mmHg) should prompt immediate review of the adequacy of chest compressions. However, the complete absence of ETCO₂ is highly indicative of an oesophageal intubation and immediate attention must be given to securing the airway and establishing effective ventilation. A sudden, significant rise in ETCO₂ suggests a concomitant increase in cardiac output due to the return of spontaneous circulation (ROSC). Adrenaline may decrease and bicarbonate may increase the measured ETCO₂, but these effects are usually minor compared to a major change in cardiac output.'</p>	April 2019

Chapter 22

Page	Change	Date
226	The EZ-IO® needles for paediatrics are in two sizes: under 40 kg (pink 15mm) and over 40kg (blue 25mm). The larger yellow needle (45mm) is for adult use especially when there is extra tissue to penetrate.	July 2017
227	<p>Sentence underneath the procedure for insertion "It should be noted that..." replaced with the following text</p> <p>"In extremis this should not be required, however manufacturers suggest that aspiration and infusion of fluid may be painful for the conscious patient and if this proves to be the case 0.5 mg/kg of 2% lidocaine (not to exceed 40mg) may be infused slowly to combat this. It is important to note that the paediatric doses required are very small in volume and as such require specific consideration of the administration technique and referring to trust policies where available and/ or the manufacturer's guidance. If a decision is taken to do this then cardiac monitoring is recommended. "</p> <p>An example can be found here http://www.eziocomfort.com/eziocomfort.html#dosing-&-administration [last accessed 06/11/2018]</p>	November 2018

Appendix F

Page	Change	Date										
332	<p>Figure F.8</p>  <p>The flowchart 'Maintain temperature' outlines the following steps:</p> <ul style="list-style-type: none"> (Antenatal counselling) Team briefing and equipment check Birth Dry the baby: Maintain normal temperature, Start the clock or note the time Assess (tone), breathing, heart rate If gasping or not breathing: Open the airway, Give 5 inflation breaths, Consider SpO₂ ± ECG monitoring Re-assess: If no increase in heart rate look for chest movement during inflation If chest not moving: Recheck head position, Consider 2-person airway control and other airway manoeuvres, Repeat inflation breaths, SpO₂ ± ECG monitoring, Look for a response If no increase in heart rate look for chest movement When the chest is moving: If heart rate is not detectable or very slow (< 60 min⁻¹) ventilate for 30 seconds Reassess heart rate: If still < 60 min⁻¹ start chest compressions; coordinate with ventilation breaths (ratio 3:1) Re-assess heart rate every 30 seconds: If heart rate is not detectable or very slow (< 60 min⁻¹) consider venous access and drugs Update parents and debrief team <p>Additional elements in the flowchart:</p> <ul style="list-style-type: none"> A vertical arrow on the left labeled 'Maintain temperature'. A red arrow pointing down with '60 s'. A box titled 'Acceptable pre-ductal SpO₂' with a table: <table border="1" data-bbox="853 1064 1029 1265"> <tr><td>2 min</td><td>60%</td></tr> <tr><td>3 min</td><td>70%</td></tr> <tr><td>4 min</td><td>80%</td></tr> <tr><td>5 min</td><td>85%</td></tr> <tr><td>10 min</td><td>90%</td></tr> </table> A green arrow pointing down labeled 'Increase oxygen (guided by oximetry if available)'. A vertical dashed box on the right containing the text: AT ALL TIMES ASK: DO YOU NEED HELP? 	2 min	60%	3 min	70%	4 min	80%	5 min	85%	10 min	90%	January 2017
2 min	60%											
3 min	70%											
4 min	80%											
5 min	85%											
10 min	90%											

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Appendix G Formulary

Page	Change	Date
343	Lorazepam max dose should be 4 mg	April 2018