**EVIDENCE-BASED PRACTICE RECOMMENDATIONS**

Bell M, Lowe C. November 2009; Volume 6, Number 11

While the last 25 years have undeniably seen advances in the understanding and management of pediatric cardiopulmonary failure, many questions remain unanswered and progress must continue to be made. This issue of Pediatric Emergency Medicine Practice strives to answer the questions: Is there evidence that PALS works? Who comes up with these guidelines and how do they do it? How do these guidelines work and what happens after the initial resuscitation steps have been completed? For a more detailed and systematic look at the PALS guidelines, see the full text article at [www.ebmedicine.net](http://www.ebmedicine.net).

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<th>Key Points</th>
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<td><strong>Children are not simply little adults.</strong> Children differ not only in body size and weight, but also heart size, physiology, and vulnerability, lung maturity, and function and response to trauma.</td>
<td>Whenever possible, use pediatric-specialized equipment such as smaller bag valve masks, smaller endotracheal tubes, smaller laryngoscopes, and defibrillators that can deliver appropriate amounts of energy based on the child’s weight. In addition, stabilization equipment, such as cervical collars and backboards, must be tailored to smaller body sizes.</td>
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| The best way to improve survival is to prevent the arrest event in the first place. Beyond that, early recognition and appropriate intervention are our best tools for improving survival. | • Educate patient families on proper CPR procedures.  
• ALWAYS prioritize Airway, Breathing, and Circulation when assessing a patient.  
• When in doubt about the presence of respirations or pulses, initiate CPR.  
• Placement of AEDs in public settings is a time-effective strategy for maximizing good outcomes from ventricular fibrillation. |
| The AHA is now recommending the “push hard and push fast” approach to CPR. | • For infants and children without signs of puberty, the chest should be compressed to one-third to one-half the depth of the chest, using either the 1-hand or the 2-hand technique.  
• For adults and for children with signs of puberty, the chest should be compressed to a depth of 2 inches with the heels of 2 hands, one over the other, placed at the center of the nipple line. In all cases, the chest should be allowed to recoil completely for adequate refilling of the heart.  
• Minimize any interruptions in compressions to prevent the cessation of blood flow. The AHA now recommends one universal compression-to-ventilation ratio of 30:2 for infants, children, and adults. |
| During CPR, blood flow to the lungs is only one-third to one-half the normal amount, so less ventilation is required. | In pediatric patients with a known metabolic condition who present with an acute illness, the administration of dextrose and fluids is a priority. A good rule of thumb is to initiate IV fluids with dextrose 10% in 1/2 normal saline at 1.5 times maintenance until laboratory results are available. |
| In scenarios in which manual defibrillation is not available, AEDs may be used for children who are at least 1 year of age with no signs of circulation. | The most current recommendation is to deliver 1 shock, immediately followed by CPR for 2 minutes (starting with chest compressions). Pulses and rhythm should be reassessed after 2 minutes of CPR. These recommendations are based on the findings that (1) rhythm analysis by an AED can take up to 37 seconds and (2) the first shock eliminates ventricular fibrillation 85% of the time. |

*See reverse side for reference citations.*

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