2015 Interim Training Materials
Heartsaver® Student Workbook Comparison Chart

	New	Old	Rationale
First Aid			
Dental avulsion (First Aid CPR AED Student Workbook and First Aid Student Workbook, Part 3: Injury Emergencies)	First aid providers may be unable to reimplant an avulsed tooth due to lack of protective medical gloves, training and skill or fear of causing pain. When immediate reimplantation is not possible, it may be beneficial to temporarily store an avulsed tooth in a solution shown to prolong viability of dental cells (compared with saliva). Solutions with demonstrated efficacy at prolonging dental cell viability from 30 to 120 minutes include Hank's Balanced Salt Solution (containing calcium, potassium chloride and phosphate, magnesium chloride and sulfate, sodium chloride, sodium bicarbonate, sodium phosphate dibasic and glucose), propolis, egg white, coconut water, Ricetral, or whole milk.	Place the tooth in milk—or clean water if milk is not available.	Dental avulsion can result in permanent loss of a tooth. The dental community agrees that immediate reimplantation of the avulsed tooth affords the greatest chance of tooth survival, but it may not be an option. In the event of delayed reimplantation, temporary storage of an avulsed tooth in an appropriate solution may improve chances of tooth survival.

	New	Old	Rationale
Chest pain (First Aid CPR AED Student Workbook and First Aid Student Workbook, Part 2: Medical Emergencies)	While waiting for EMS to arrive, the first aid provider may encourage a person with chest pain to chew 1 adult or 2 low-dose aspirins if the signs and symptoms suggest that the person is having a myocardial infarction, and if the person has no allergy or other contraindication to aspirin. If a person has chest pain that does not suggest a cardiac source, or if the first aid provider is uncertain of the cause of chest pain or is uncomfortable with administration of aspirin, then the first aid provider should not encourage the person to take aspirin and the decision to administer aspirin can be deferred to an EMS provider.	While waiting for EMS to arrive, the first aid provider may encourage the victim to chew and swallow 1 adult (non–enteric-coated) or 2 low-dose "baby" aspirins if the victim has no allergy to aspirin or other contraindication to aspirin, such as evidence of a stroke or recent bleeding.	The administration of aspirin significantly decreases mortality due to myocardial infarction, but there is no evidence to support the use of aspirin for undifferentiated chest pain. A reduction in mortality is also found when "early" administration of aspirin (ie, in the first few hours after onset of symptoms from myocardial infarction) is compared with "later" (ie, after hospital arrival) administration of aspirin for chest pain due to acute myocardial infarction. It remains unclear, however, whether first aid providers can recognize the signs and symptoms of myocardial infarction, and it is possible that use of aspirin for noncardiac causes of chest pain could cause harm. Although the dose and form of aspirin used for chest pain was not specifically reviewed by the ILCOR First Aid Task Force, the bioavailability of enteric-coated aspirin is similar to non–enteric-coated when chewed and swallowed. Thus, there is no longer the restriction to use non–enteric-coated aspirin, as long as the aspirin is chewed before swallowing.

	New	Old	Rationale
Anaphylaxis (severe allergic reaction) (First Aid CPR AED Student Workbook and First Aid Student Workbook, Part 2: Medical Emergencies; Pediatric First Aid CPR AED Student Workbook, Illnesses and Injuries, Group A)	When a person with anaphylaxis does not respond to an initial dose of epinephrine, and arrival of advanced care will exceed 5 to 10 minutes, a repeat dose may be considered.	In unusual circumstances, when advanced medical assistance is not available, a second dose of epinephrine may be given if symptoms of anaphylaxis persist.	The 2010 Guidelines recommended that first aid providers assist with or administer (the victim's own) epinephrine to persons with symptoms of anaphylaxis. Evidence supports the need for a second dose of epinephrine for acute anaphylaxis in persons not responding to a first dose; the guidelines revision provides clarification as to the time frame for considering a second dose of epinephrine.

	New	Old	Rationale
CPR AED			
Compression rate (First Aid CPR AED Student Workbook and CPR AED Student Workbook, CPR and AED for Adults; CPR and AED for Children; CPR for Infants; Pediatric First Aid CPR AED Student Workbook, CPR, AED, and Choking)	Push at a rate of 100 to 120 compressions per minute.	Push at a rate of at least 100 compressions per minute.	The number of chest compressions delivered per minute during CPR is an important determinant of return of spontaneous circulation and survival with good neurologic function. The actual number of chest compressions delivered per minute is determined by the rate of chest compressions and the number and duration of interruptions in compressions (eg, to open the airway, deliver rescue breaths, allow AED analysis). In most studies, more compressions are associated with higher survival rates, and fewer compressions are associated with lower survival rates. Provision of adequate chest compressions requires an emphasis not only on an adequate compression rate but also on minimizing interruptions to this critical component of CPR. An inadequate compression rate or frequent interruptions (or both) will reduce the total number of compressions delivered per minute. New to the 2015 Guidelines Update are upper limits of recommended heart rate and compression depth, based on preliminary data suggesting that excessive compression rate and depth adversely affect outcomes. The addition of an upper limit of compression rate is based on 1 large registry study analysis associating extremely rapid compression rates (greater than 140/min) with inadequate compression depth.

	New	Old	Rationale
Compression depth (First Aid CPR AED Student Workbook and CPR AED Student Workbook, CPR and AED for Adults; CPR and AED for Children; CPR for Infants; Pediatric First Aid CPR AED Student Workbook, CPR, AED, and Choking)	Adult: During manual CPR, rescuers should perform chest compressions to a depth of at least 2 inches (5 cm) for an average adult, while avoiding excessive chest compression depths (greater than 2.4 inches [6 cm]). Pediatric: It is reasonable that rescuers provide chest compressions that depress the chest at least one third the depth of the chest in pediatric victims (infants [younger than 1 year] to children up to the onset of puberty). This equates to approximately 1.5 inches (4 cm) in infants to 2 inches (5 cm) in children. Once children have reached puberty (ie, adolescents), the recommended adult compression depth of at least 2 inches (5 cm) but no greater than 2.4 inches (6 cm) is used.	Adult: The adult sternum should be depressed at least 2 inches (5 cm). Pediatric: To achieve effective chest compressions, rescuers should compress at least one third the depth of the chest. This corresponds to approximately 1.5 inches (about 4 cm) in most infants and about 2 inches (5 cm) in most children.	Compressions create blood flow primarily by increasing intrathoracic pressure and directly compressing the heart, which in turn results in critical blood flow and oxygen delivery to the heart and brain. Rescuers often do not compress the chest deeply enough despite the recommendation to “push hard.” While a compression depth of at least 2 inches (5 cm) is recommended, the 2015 Guidelines Update incorporates new evidence about the potential for an upper threshold of compression depth (greater than 2.4 inches [6 cm]), beyond which complications may occur. Compression depth may be difficult to judge without use of feedback devices, and identification of upper limits of compression depth may be challenging. It is important for rescuers to know that the recommendation about the upper limit of compression depth is based on 1 very small study that reported an association between excessive compression depth and injuries that were not life-threatening. Most monitoring via CPR feedback devices suggests that compressions are more often too shallow than they are too deep.