Basic Emergency Lifesaving Skills (BELS):

A Framework for Teaching Emergency Lifesaving Skills to Children and Adolescents

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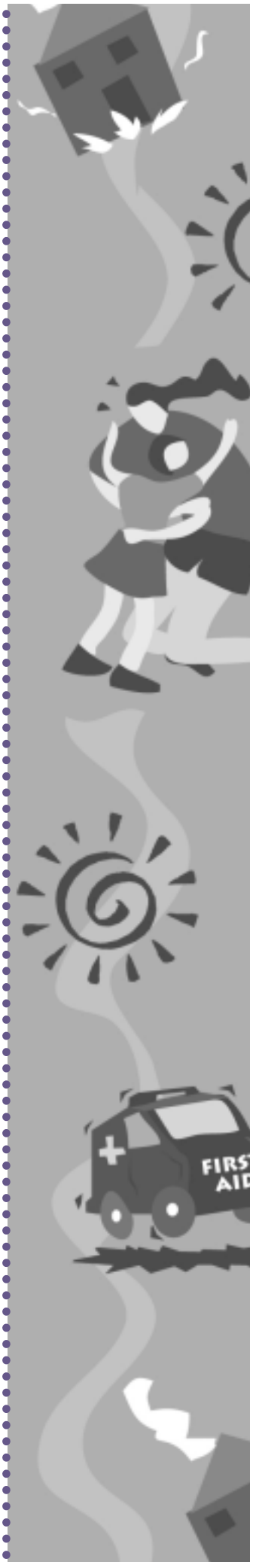

PREFACE

Health education is an important component of American students' primary and secondary schooling. Students are taught the importance of nutrition, exercise, dental, and personal hygiene; the avoidance of substance use and abuse; and the prevention of injury and illness. One aspect of injury prevention is how to perform basic emergency lifesaving skills—basic first aid and cardiopulmonary resuscitation (CPR).

It is well known that when CPR and basic first aid are performed in the out-of-hospital setting, victims' survival rates increase significantly.[1,2,3] Parents, students, and other members of the public, then, are the individuals likely to administer CPR and first aid prior to the arrival of emergency medical services (EMS) personnel. The introduction, acquisition, and reinforcement of basic emergency lifesaving skills during the school years may heighten students' confidence to respond in an emergency and may provide the impetus for updating these skills after high school graduation. Schools play an important role in providing students with basic emergency lifesaving skills as part of the school health education program.[4,5] The feasibility of this undertaking is well documented.[5-12]

Basic emergency lifesaving skills are those essential interventions known to stabilize an injured or ill person's health condition until the arrival of an adult, EMS professional, or other responsible person. This document, *Basic Emergency Lifesaving Skills (BELS): A Framework for Teaching Emergency Lifesaving Skills to Children and Adolescents*, provides a developmental approach for teaching these skills to the student population.

The BELS Framework consists of seven sections:

- Section I: Background information on teaching basic emergency lifesaving skills to students
- Section II: Overview of cognitive, physical, and social/moral development principles pertinent to schoolchildren's ability to learn and perform emergency skills
- Section III: Sequence of basic emergency lifesaving skills performance
- Section IV: Developmental principles and teaching strategies for the cognitive, psychomotor and social/moral learning of basic emergency lifesaving skills from kindergarten through 12th grade
- Section V: Application of the BELS Framework for critiquing and selecting basic emergency lifesaving skills curricula
- Section VI: Advocacy issues for incorporating basic emergency lifesaving skills into school curricula
- Section VII: Resource list, selected bibliography, and evaluation form

Basic emergency lifesaving skills are introduced, acquired, and reinforced according to students' ages and developmental levels. This training should be offered at regular intervals for students to practice these skills and keep them current.[4,7-11,13] This is why standardized, consistent training throughout the school years is vital for skill introduction, acquisition, and reinforcement.

The BELS Framework is for teachers, health care providers, parents, and community members as they advocate for basic emergency lifesaving skills training for children and adolescents. Parents and teachers who mandate, advocate, or recommend that schoolchildren be taught effective emergency skills can use BELS as a framework for suggesting how and when this content is offered. Educators who design materials for teaching emergency skills to students can apply the BELS Framework to their course content. Emergency-care professionals and teachers can evaluate commercially available materials or self-designed lesson plans using the BELS Framework as a guide.

The BELS Framework fits comfortably within school health programs under comprehensive school health education, thus creating an opportunity for its inclusion in school curricula and health care provision in the school setting. Training in basic emergency lifesaving skills instills in students a sense of social responsibility, allows them to gain confidence in responding to sudden and perhaps frightening events, and teaches them to recognize the need for and how to call for emergency assistance.[4]

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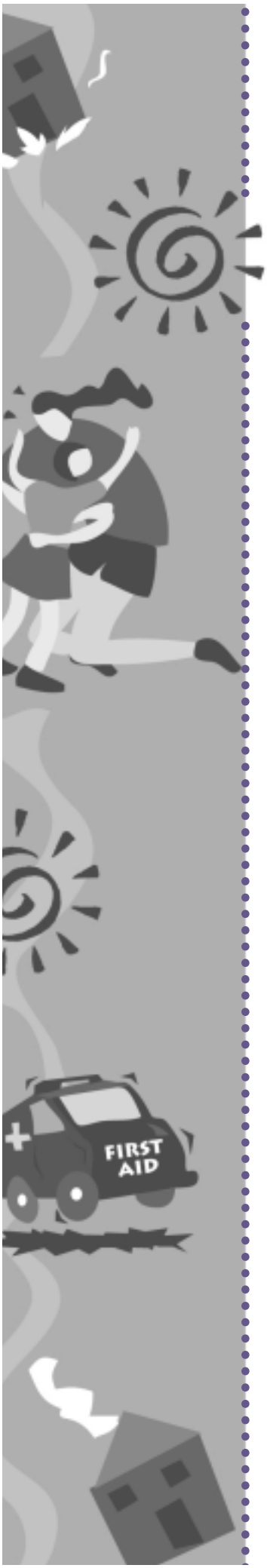

Section I: Teaching Basic Emergency Lifesaving Skills

Introduction

About 91,155,000 visits are made to Emergency Departments (ED's) annually in the United States; children and adolescents comprise 31,447,000 (34%) of these visits.[1] The overall estimated adjusted injury rate for individuals ages 1–17 years who required medical attention is 27 per 100 children.[2] Tables 1-1 and 1-2 illustrate these data. These statistics show that it is quite likely for children and adolescents to experience an injury or illness that requires medical attention. It is also likely that other children or adolescents will be involved with the victim, such as walking to or from school or while babysitting, and may be the first person available to render assistance. For example, 44% of the injuries sustained by children and adolescents seeking ED treatment occurred in the home setting.[1]

Immediately following a sudden illness or injury, basic emergency lifesaving skills are administered to the victim by a trained person until EMS arrival. This "chain of survival" includes early access to care, early CPR, early defibrillation, and early advanced care.[3] When trained in basic emergency lifesaving skills, children and adolescents can recognize the need for care, administer CPR, and operate an automatic external defibrillator prior to EMS arrival. One recent study underscores the importance of using basic emergency lifesaving skills. Among 300 children 17 years of age and younger who sustained cardiopulmonary arrest, 181 (60%) were in their homes with family members present; only 31 of these children received CPR from a family member before EMS arrival.[4] Conceivably, school-age siblings trained in basic emergency lifesaving skills for children would contribute to early care prior to EMS arrival. Additional training in basic pediatric life-support skills is strongly recommended.[5] This section highlights current trends in basic emergency lifesaving skills training and offers suggestions for their incorporation into the school's health education curriculum.

Current Basic Emergency Lifesaving Skills Training

Although teaching basic emergency lifesaving skills to students is widely accepted and advocated,[6-14] no national guidelines exist to mandate this training within United States school curricula. The School Health Policies and Programs Study (SHPPS), conducted in 1994 by the Centers for Disease Control and Prevention, was a national survey of health education practices at state, district, school, and classroom levels.[15] This study found that only 37.5% of the states and 61.9% of the districts required CPR training; 48% of schools included CPR training in their curricula.[15] For first aid training, 55.8% of the states and 73.9% of the districts required this topic, with 58.8% of the schools offering this training.[15]

Table 1-1

Most Common Principal Medical Diagnoses for Children Ages 1–17 Years Treated in Emergency Departments*

Ages < 3 Years	Ages 3–5 Years	Ages 6–8 Years	Ages 9–11 Years	Ages 12–14 Years	Ages 15–17 Years
Otitis media Upper respiratory infection Noninfectious gastroenteritis and colitis Acute pharyngitis	Otitis media Upper respiratory infection Noninfectious gastroenteritis and colitis Acute pharyngitis	Otitis media Acute pharyngitis Upper respiratory infection Asthma	Otitis media Acute pharyngitis Asthma Open wound, knee/leg/ankle	Sprain or strain, ankle Acute pharyngitis Abdominal pain Open wound, site unspecified	Abdominal pain Sprain or strain, ankle Acute pharyngitis Sprain or strain, back

*Data abstracted from: Weiss, H., Mathers, L., Forjuoh, S., & Kinnane, J. (1997). *Child and adolescent emergency department visit databook* (pp. 62-63). Pittsburgh, Pa.: Center for Violence and Injury Control, Allegheny University of the Health Sciences.

Table 1-2

Most Common Nonfatal and Fatal Injuries in Children Ages 1–17 Years*

Type of Injury/Age	Ages 1–4 years	Ages 5–9 years	Ages 10–13 years	Ages 14–17 years
Nonfatal	Falls Struck/cut Other injuries Poisoning	Falls Struck/cut Bikes/skates Other accidents	Struck/cut Falls Sports Bikes/skates	Sports Struck/cut Other accidents Falls
Fatal	Burns Submersion Motor vehicle Pedestrian	Motor vehicle Pedestrian Burns Submersion	Motor vehicle Pedestrian Assault/abuse Submersion	Motor vehicle Self-inflicted Assault/abuse Pedestrian

*Data abstracted from: Scheidt, P., Harel, Y., Trumble, A., Jones, D., Overpeck, M., & Bijur, P. (1995). The epidemiology of nonfatal injuries among US children and youth. *American Journal of Public Health, 85* (7) (p. 937).

Unlike the United States school systems, Scandinavian and European school systems recognize the clear importance of this training. In Norway, first aid content within the school curriculum has been compulsory since 1922; in 1961, mouth-to-mouth resuscitation, a precursor to CPR, was added.[8] In 1992, the European Resuscitation Council recommended that schools include CPR training in their curricula.[13]

To encourage the inclusion of basic emergency lifesaving skills training in the school curricula, the Emergency Medical Services for Children Program jointly administered by the Human Resources and Services Administration, Maternal and Child Health Bureau, and the National Highway Traffic Safety Administration, added an objective to its five-year plan for improving emergency care. This objective is to “increase the number of school districts that require proficiency in first aid and CPR as a condition for high school graduation."[16] Similarly, *Healthy People 2000* developed an objective, “to provide academic instruction on injury prevention and control, preferably as part of quality school health education, in at least 50% of public schools systems (K–12)."[17] This objective presumably covers basic emergency lifesaving skills training as a measure for secondary injury prevention. The Human Resources and Services Administration, Maternal Child Health Bureau funded the development of the BELS Framework to help address these objectives.

The Importance of Basic Emergency Lifesaving Skills Training for Students

Mastering basic emergency lifesaving skills is critical for the student population. Schoolchildren, while playing or attending school, may encounter situations in which a friend suddenly becomes ill or injured. Adolescents are likely to care for infants and young children as parents, baby-sitters or child care workers; these young children are vulnerable to choking and other situations where emergency skills must be employed quickly and accurately. Equipping students with the proper emergency skills training allows them to feel confident in obtaining and delivering assistance.

Children can be taught elements of basic emergency lifesaving skills beginning in kindergarten. At high school graduation, all students should have received comprehensive training in first aid and CPR. The primary and secondary school audience is ideal for receiving basic emergency lifesaving skills training. They are very receptive to new information, and they learn knowledge and skills very quickly.[12] They also are interested in learning how to act in an emergency situation. A survey of 154 junior and senior high school students found that “what to do in an emergency" was one of their top five health-related questions.[18] Heath and Nielsen reported similar enthusiasm for CPR training among 450 children ages 10–11 years and 14–15 years.[19]

Among 41 students ages 11–12 years attending a school-based CPR program,[13] 32% had received previous CPR training through their local EMS, scouting organizations, sports clubs, the American Red Cross, or their parents.[14] After completing a bystander care program in Indiana, high school students had a significant increase in knowledge of what to do at the scene of a motor vehicle crash as well as an increased willingness to stop at a crash scene to render assistance.[20] Similar results were obtained in students 10–17 years of age following completion of a bystander care program in Wisconsin.[20] Children with moderate intellectual disabilities are able to learn first aid skills, as well.[21]

Students are an ideal audience for learning basic emergency lifesaving skills, and the school setting is optimal for delivering this activity. Among 476 randomly selected adults, almost half (n=226) completed at least one CPR course. Most received CPR training because of a school or work requirement,[22] leading to the conclusion that exposure to CPR in the school setting may be the only CPR course a person receives.

Introducing Basic Emergency Lifesaving Skills to the Student Population

Basic emergency lifesaving skills are taught in a variety of settings—schools, social organizations, and community organizations and agencies.

School Setting

There are two methods for teaching basic emergency lifesaving skills in the school setting: 1) integration throughout the entire curriculum and 2) introduction of these skills through outside sources, such as community organizations.

Schools offering basic emergency lifesaving skills training through their curriculum assumedly attain the same three advantages as those who offer CPR training, as described by Lester et al.[12] First, because the content is compulsory, a wide audience is reached, including minority populations. Second, revisions to basic emergency lifesaving skills content are built directly into the curriculum. Teachers are assured that the previous content was taught, and the students can expand their repertoire of skill application. Finally, the emergency training curriculum is standardized and is taught by professional educators. This approach enhances standardization and diminishes confusion when students are first introduced to, then later taught, these basic emergency lifesaving skills.

While integration of basic emergency life saving skills education into a school district's health curriculum is ideal, many schools do not offer this content within their academic offerings. Teachers then must provide the content in their own classes, where they may teach the content themselves or enlist the expertise of others. The SHPPS study reported that among the lead health education teachers, only 43.8% and 30.5% received CPR and first aid training, respectively.[15] Typical resources that teachers might enlist include emergency and health care professionals from local EMS agencies or hospitals and adults or professionals from national organizations. Appendix B lists these organizations and their courses.

The length of time devoted to teaching CPR and first aid varies. SHPPS reported that among teachers who taught CPR and first aid as a major topic, 58.4% and 40%, respectively, taught these subjects for one to three class periods, while only 7.7% and 10.1% taught them for 13 or more periods.[15] For changes to occur in general health knowledge, practices, and attitudes, an estimated 50, 30, and 40 classroom hours, respectively, are needed.[23] In comparing these calculations to the number of class periods in which CPR and first aid are taught, more classroom time should be devoted to teaching basic emergency lifesaving skills to students.

Social Organizations

Social organizations also advocate first aid training for schoolchildren. For example, the Boy Scouts of America has a first aid component in their program.[24] The Girl Scouts of America advocates taking a first aid and CPR course.[25] Both organizations encourage the attainment of basic emergency lifesaving skills through merit badge programs.

Community Agencies

Hospitals are another source for educating children and adolescents in basic emergency lifesaving skills, usually at no or low cost. For example, safe babysitting or parenting courses may be offered to adolescents. Community CPR courses may offer training to children, adolescents, and their parents. Nurses, physicians, and others usually teach these courses.

Public safety agencies, such as EMS, police, and fire departments, may offer training in basic emergency lifesaving skills. People trained will be certified as CPR or first aid instructors. They, too, may offer training within their communities.

Conclusion

There is a need for school systems to recognize the importance of basic emergency lifesaving skills training and to incorporate this content into the current health education curricula. While social organizations and community agencies offer such training, it may not be provided consistently over time and in a developmentally appropriate manner. Training in basic emergency lifesaving skills competes with other educational priorities. Parents, teachers, and health care professionals must advocate to bring this important education issue to the forefront for serious consideration by school boards and administrators. Teachers can capitalize on children's willingness to learn basic emergency lifesaving skills and reinforce skills performance on an annual or more frequent basis.

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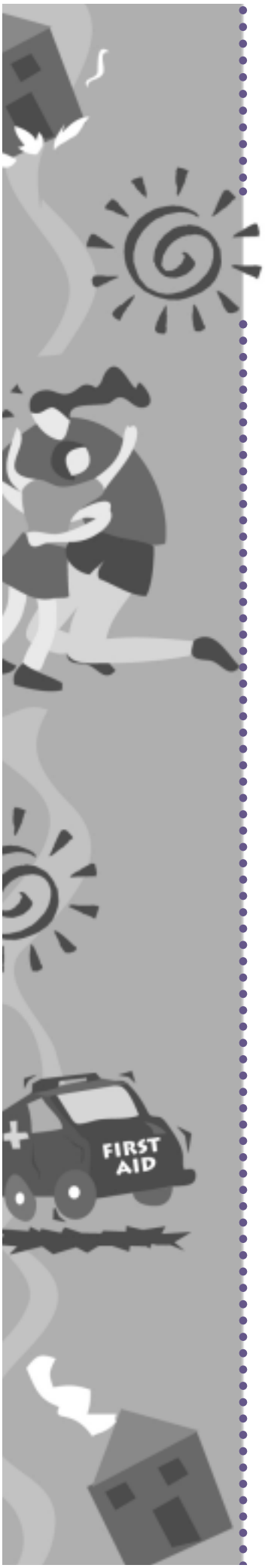

Section II: Integrating Child Development Principles and Basic Emergency Lifesaving Skills Training

Introduction

The field of child development explains the physical, cognitive, social, and moral growth of children as they interact with the world. *Cognitive development* is how children understand and learn. *Social development* is how children respond to and communicate with others. *Moral development* is how children develop and apply principles of justice and fairness. Educators need to consider child development principles and their implications for how children learn, perform, and value basic emergency lifesaving skills, as children's ability to perform emergency skills depends on their understanding of the skill and their ability to physically perform the skill in an emotionally stressful situation. This section highlights the cognitive, social, and moral development in children (7–12 years) and adolescents (13–18 years) and applies this knowledge to emergency skill acquisition.

Schoolchildren (Ages 7–12 Years)

Schoolchildren ages 7–12 years are in a stage of rapid growth. Their bones are elongating, their weight is increasing, and their body proportions are becoming adult-like. Their fine and gross motor abilities are advancing, their muscular strength is increasing, and they enjoy being active. Puberty may begin in females at approximately 10 years of age or younger. Organized and cooperative games and activities are important avenues for learning.

Cognitively, these students are in the concrete operational period. During this period, children work through problems mentally if the problems relate to real objects.[1] These children can consider two or more aspects of a situation simultaneously and when making comparisons, can take into account more than one variable.[2] The concepts of mass and numbers (conservation and reversibility) are present.[1] For example, children with concrete operational thinking understand that a volume of fluid maintains its same volume when poured from a tall, thin glass into a short, round glass. The concept of time is further developed as well. Schoolchildren are curious about their bodies and want to learn about how their body functions. They also want to learn about how things work and why certain activities are done in a certain manner. Children this age can begin to cope with responding to an emergency and using available supplies for rendering care.[3]

Socially, children ages 7–12 years place increasing emphasis on the opinions of their peers as compared to their families' and teachers' opinions. It is important for them to gain social acceptance and be involved in social situations. Other social skills include

having a sense of humor, a willingness to share with others, being positive and creative, and being a leader.[2]

Morally, children 7–12 years of age understand that rules evolve from mutual consent and respect; these rules can be changed under certain conditions. Within this age group, there is a wide diversity of moral development. Some children behave to earn a tangible reward and/or avoid punishment. Others conform to peers' or adults' standards to gain approval, while others follow the social order of rules. A conscience develops, with younger schoolchildren identifying a particular body area (heart, brain) for its location and older schoolchildren personifying the conscience as an abstract entity within the child that arouses such feelings as guilt.[2]

Adolescents (Ages 13–18 Years)

Adolescents also are growing rapidly, with hormone production increasing and bodily appearances becoming adult-like. They experience "growth spurts" and sexual development that herald the onset of puberty. Such development leaves them feeling out of control, and they experience anxiety about their appearance, vocal tone, or other features. They, too, enjoy being active, and usually are involved in many school activities, employment, and other venues. Older adolescents may serve as volunteers on their local fire or EMS squads.

Cognitively, adolescents are in the stage of formal operations. They can reason about ideas, impossibilities, probabilities, and broad abstract concepts.[1]

Socially, adolescents may have ambivalent relationships with their parents, in which they strive to be independent yet want the family to support them.[4] Their peer group is very important, and everyone strives to look and act alike, which provides them with a sense of safety and belonging.

Morally, adolescents strive to meet the expectations or follow the rules of their family, peer group, or nation. In mid- to later adolescence, many develop their own moral principles that are valid and apart from the principles set forth by the family or peers.[4] This is based on the adolescents' own beliefs of what is right and wrong.

Providing Basic Emergency Lifesaving Skills Training

Selected principles of child development applied to education content and teaching strategies for basic emergency lifesaving skills training are highlighted in Table 2-1. Specific strategies are discussed in Section IV.

Children's and adolescents' emerging sense of moral judgment and conscience deserves special attention when teaching basic emergency lifesaving skills. The need to always stay safe cannot be over-emphasized with this population. Even when applying basic emergency lifesaving skills to a pretend "victim," students aged 13–18 years may experience guilt if they believe they should have acted differently. Feelings of guilt may arise if they choose to place their own safety ahead of the victim's needs or if others second-guess their actions. Religion, gender, culture, and ethnicity influence children's perceptions about emergencies or helping others; these factors must be assessed and addressed prior to the provision of basic emergency lifesaving skills training. Section V outlines criteria for addressing multicultural awareness.

TABLE 2-1

APPLYING CHILD DEVELOPMENT PRINCIPLES TO BASIC EMERGENCY LIFESAVING SKILLS TRAINING

AGE GROUP	CHILD DEVELOPMENT PRINCIPLE	APPLICATION TO BASIC EMERGENCY LIFESAVING SKILLS TRAINING
School age (7–12 years)	Cognitive development:	
	▪ Reversibility—able to mentally imagine things as they were before any action was taken [5]	▪ Can understand what a "pretend" wound looked like before it was bandaged to stop bleeding
	▪ Reciprocity—the corresponding action or relation of one person or thing to another[5]	▪ Can understand a logical sequence of skill performance (person not breathing: open the airway and look, listen, and feel for breathing)
	▪ Conservation—the quantity of a substance does not change when it is put into a different form[5]	▪ Can understand that a volume of "fake" blood is the same when poured from a container into a pool on the floor
	▪ A desire to learn about physical causes of occurrences [6]	▪ Can understand that a piece of food can block the airway and cause choking
	▪ An interest in humor, puzzles, and riddles; they appreciate ambiguity in situations [6]	▪ Use riddles and word games when teaching; use accurate medical terminology when teaching (heart, lungs, trachea).
	Social development:	
	▪ Enjoys peer group and working together on tasks; enjoys a sense of accomplishment	▪ Encourage small group work; rotate leadership roles among the group members; make sure that everyone has a fair opportunity to participate.
	Moral development:	
Ages 7–10 years	▪ Right actions satisfy one's own needs and maybe someone else's; if you help someone, they will owe you later[6]	▪ Impress that the need to help others is important; downplay the need for a "reward" for helping someone.
Ages 10–12 years	▪ Desire to maintain rules and follow authority[6]	
Ages 12 and up	▪ Need to show respect for the social order[6]	▪ Praise and encourage children for attending the skills training and for being good citizens. Remind children that their duty first and foremost is to stay safe in any situation.
		▪ Emphasize the importance of helping others in a situation, which promotes the social order of society and good citizenship.

Adolescence (13–18 years)	Cognitive development: ▪ Understands ratios, keeping a number or quantity in proportion[5] ▪ Tests each possible variation to discover the correct solution[5] ▪ Plays to the audience– believes that their faults are obvious and that everyone is watching them[5] ▪ Enjoys debating and challenging authority[5] Social development: ▪ Peer cohesiveness is important; being touched by another person may cause anxiety Moral development ▪ Desire to help others; following the rules is important	▪ Can understand compression: breathing ratios for infants, children, and adults during CPR practice. ▪ Can understand how an injury occurred, then can logically deduce methods for treating the victim. ▪ May be self-conscious if asked to demonstrate a skill in front of the group. Individual attention during skills performance may be helpful. ▪ Be confident and in control of the group. ▪ Consider using same gender groups; be aware that adolescents may be anxious about their appearance. ▪ Include a moral component to case scenarios; encourage discussion.

Conclusion

Child and adolescent development principles are useful to provide a theoretical foundation for their behaviors. The integration of these principles into basic emergency lifesaving skills training is critical, as important concepts may escape students' attention if the instructor does not present the material in a developmentally appropriate manner. Teaching strategies should be adapted to the audience's gender, cultural, ethnic, and religious needs as well. Appreciating the energy and enthusiasm of the student audience results in an enjoyable education experience.

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Section III: Prioritizing the Basic Emergency Lifesaving Skills

Introduction

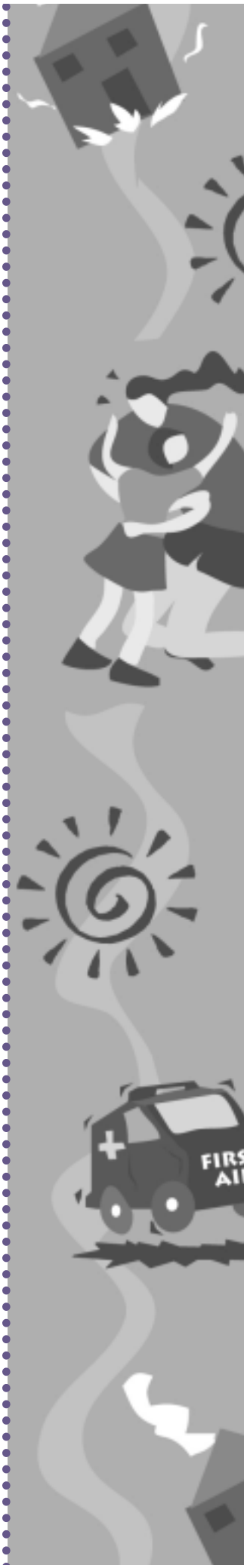
The BELS Framework considers basic emergency lifesaving skills to be those essential interventions that are known to stabilize an injured or ill person's health condition until an adult, emergency care professional, or other responsible person arrives. The prioritized delivery of basic emergency lifesaving skills is outlined in Table 3-1. Other skills, such as bandaging or splinting, often are included in first aid curricula. The BELS Framework emphasizes only lifesaving skills, listed in Table 3-1.

Basic emergency lifesaving skills are learned by repeating the skills sequence in the same order from beginning to end.[1] Because it is unlikely that schoolchildren will master this skill sequence on the first attempt, practice and reinforcement throughout their school years is very important. This is another reason why standardized, consistent training throughout the school years is so vital to the training's success. Students have varying abilities to learn and perform; therefore, individual differences in teaching and learning should be considered.[1] This section describes the basic emergency lifesaving skills to be taught to students.

Table 3-1

Skill Sequence in Basic Emergency Care

Emergency Skill	Specific Action
Get Help.	▪ Recognize the emergency. ▪ Stay safe. ▪ Tell an adult or other responsible person.
Support the airway.	▪ Open the airway. ▪ Assist the person who is choking. ▪ Relieve an obstructed airway.
Support breathing.	▪ Look, listen, and feel for breathing. ▪ Help with breathing (e.g., positioning). ▪ Deliver rescue breathing.
Support circulation.	▪ Help with positioning (e.g., keep the person still). ▪ Stop or control severe bleeding. ▪ Administer chest compressions. ▪ Operate an automatic external defibrillator (AED).



Introducing Basic Emergency Lifesaving Skills to Students

The basic emergency lifesaving skills outlined in Table 3-1 should be introduced to students throughout their schooling based on their age, cognitive, physical, social, and moral development. With basic emergency lifesaving skills training, the skill itself never changes, but the activities used to perform the skills change in concert with the children's ages and developmental abilities. For example, staying safe for a 7 year old is to leave the scene and to get an adult; for a 17 year old, staying safe includes using personal protective equipment. The matrix in Table 3-2 depicts the age at which basic emergency lifesaving skills are introduced and taught, based on empirical findings and experts' recommendations.

There are two considerations in basic emergency lifesaving skills training and application: 1) attainment of developmental milestones and 2) introduction/re-introduction, acquisition, and reinforcement of basic emergency lifesaving skills.

Attainment of Developmental Milestones

While the child development principles outlined in Section II are presented as discrete stages, children achieve developmental milestones at their own pace. For example, a child may be physically stronger and faster than his or her classmates, but may lag in emotional maturity or social skills. Educators who teach basic emergency lifesaving skills to students usually know their audience and adapt their teaching strategies accordingly. Cultural, social, and ethnic diversity, as well as gender roles, also must be considered during teaching and testing,[2,3] as well as during the selection or creation of an appropriate basic emergency lifesaving skills training curriculum.[2,3]

Introduction, Acquisition, and Retention of Basic Emergency Lifesaving Skills

Basic emergency lifesaving skills are introduced to students in accordance with their age and developmental capabilities. By ages 7–9 years, students begin to learn complex motor tasks and participate in group activities, such as sports.[4] They are taught new skills and acquire and improve upon these skills through practice and play. With basic emergency lifesaving skills, consideration should be given to skill introduction without acquisition so the students can process the information prior to actually acquiring the skill.

For example, rescue breathing may be introduced in the year prior to its actual performance and acquisition to familiarize the students with this skill. This sequence is reflected in the matrix, which shows that conceivably a skill would be introduced in one grade and acquired in the next year. Once introduced and acquired, these basic skills are re-introduced, acquired, and reinforced in subsequent years. For example, rescue breathing would be reintroduced to familiarize the students with the skill before moving on to chest compressions involved in CPR. This reintroduction reinforces students' learning and enhances their confidence in performing the skills.

Table 3-2

BELS Framework Matrix

Skill/Grades and Ages	Kindergarten Age 6 years	First–Second Ages 7–8 years	Third–Fourth Ages 9–10 years	Fifth–Seventh Ages 11–13 years	Eighth–Twelfth Ages 14–18 years
Get help. ▪ recognize an emergency ▪ stay safe ▪ tell an adult or other responsible person					
Support the airway. ▪ open the airway ▪ assist the person who is choking ▪ relieve an obstructed airway					
Support breathing. ▪ look, listen, feel for breathing ▪ help with breathing (e.g., positioning) ▪ deliver rescue breathing					
Support circulation. ▪ help with positioning (e.g., keep the person still) ▪ stop or control bleeding ▪ administer chest compressions/					
▪ operate an automatic external defibrillator (AED)					

Skill not introduced

Skill introduced, acquired, and reinforced

Skill introduced and acquired

Skill re-introduced, acquired and reinforced

Schoolchildren and adolescents rarely will need to use the basic emergency lifesaving skills for which they have been trained. Thus, without skill reinforcement in a timely manner, skill deterioration will occur. Plotnikoff and Moore reported that among forty-five 11- and 12-year-old students, CPR knowledge and skills performance declined markedly within five months of their training.[5] More encouraging were the outcomes reported by Moore et al., who found that adolescents who had been trained in CPR five years earlier had better psychomotor performance than those adolescents who had not received earlier training.[6] There was, however, no difference between these two groups in their written testing. These findings underscore the importance of basic emergency lifesaving skills training and scheduled reinforcement throughout students' schooling. In basic emergency skill training, repetition reinforces confidence and aids with skill retention by building upon known skills, introducing new skills, and reinforcing all skills upon high school graduation.[1,7]

Conclusion

Schoolchildren and adolescents have the ability to make a difference in the care of an injured or ill person. Their actions, whether to run for help or deliver rescue breathing, can positively affect the outcome of an emergency situation. First and foremost, the responsibility of children and adolescents during an emergency situation is to stay safe. Emphasizing their own safety balances their concern for others with their own needs, especially in situations where the outcome might be grim.

References

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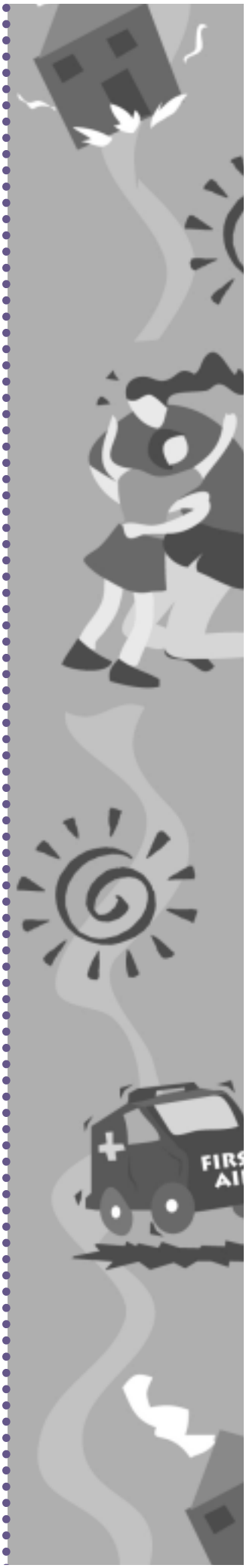
Section IV: Teaching Basic Emergency Lifesaving Skills to Children and Adolescents: Cognitive, Psychomotor and Social/ Moral Approaches



Introduction

Section IV synthesizes the content described in Sections II and III and provides age-appropriate guides for teaching basic emergency lifesaving skills to students from kindergarten through 12th grade. These tables describe the emergency skills that are developmentally appropriate for each age group. Following the emergency skills and specific actions, educational considerations based on the children's cognitive, psychomotor, and social and moral developmental levels are outlined. Examples of how these developmental factors are applied to the teaching of emergency skills are incorporated. For children younger than 6 years of age (pre-kindergarten), staying safe is the only skill recommended.

A few recommendations for teaching basic emergency lifesaving skills include:

1. Have high expectations of the students.[1] Students enjoy challenges, and they enjoy learning. Such attention promotes both academic and behavior progress. Students experience satisfaction and pleasure not only in performing activities but in performing them correctly in all of their details; this opens up an entire new area of learning for students.[2]
2. Display children's work on classroom walls.[1] This action sends the message that the students' work is important, and emergency care is important as well. Consider having students create a poster or bulletin board with the basic emergency lifesaving skills that they learned.
3. Begin the program on time and end on time.[1] Students then know what is expected of them, which translates into appropriate student behavior in preparation for learning.
4. Engage students in the learning process,[1] making them active learners. Behavior and achievement are enhanced when students are encouraged to hold positions of responsibility.[1] In basic emergency lifesaving skills training, this translates to being a group or peer leader.

5. Demonstrate an excitement and interest in the basic emergency lifesaving skills.[2] Such enthusiasm attracts the students' attention and participation.
6. Incorporate new media as they become available. For example, interactive videos, virtual reality, and other yet-to-be developed educational strategies should be evaluated for their usefulness in teaching basic emergency lifesaving skills to students of all ages.

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Kindergarten (Children Approximately 6 years of age)

Emergency Skill:
Get help

Skill	Specific Actions
Get Help: Recognize an emergency.	A person is in trouble when: ▪ someone cannot wake up ▪ someone is hurt ▪ someone cannot move ▪ someone is sick ▪ people are fighting ▪ there is smoke in the room, home, or building
Stay safe.	Go to a safe place: ▪ into the next room ▪ out of the home or building
Tell an adult.	Shout for an adult's help: ▪ baby-sitter ▪ teacher ▪ family ▪ other Dial the emergency number: ▪ answer the dispatcher's questions ▪ follow the dispatcher's instructions ▪ remain on the telephone until the dispatcher says to hang up

KINDERGARTEN (CHILDREN APPROXIMATELY 6 YEARS OF AGE) (CONTINUED)

EDUCATIONAL CONSIDERATIONS

CHILD DEVELOPMENT CATEGORY	APPLICATION	EXAMPLES OF EDUCATION STRATEGIES
Cognitive Development	Young children: ▪ make sense of the world through concrete objects and ideas	For education: ▪ Use a hands-on technique or role playing.
	▪ focus on one aspect of a situation	▪ Keep content simple.
	▪ may experience fear or anxiety when descriptions of emergency situations are too graphic or involve family members	▪ Give nonthreatening examples when teaching.
	▪ focus on results rather than motivation	▪ Results are recognizing that someone needs help, staying safe, getting an adult to help. Performing additional tasks will distract and confuse them.
Psychomotor development	▪ learn best by doing	▪ Use role playing. ▪ Use cooperative group play or simple games,[1] such as singing or shouting the emergency telephone number. ▪ Walk/run/shout to get an adult's help or be safe. ▪ Emphasize what they physically can do (e.g., run, shout) instead of what they can't do. ▪ Have the students draw a picture[2] of helping in an emergency.
Social and moral development	▪ are trying to do their best and be "good" boys and girls	▪ Emphasize that their "job" is to stay safe.

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First-Second Grade (children approximately 7–8 years of age)

Emergency Skill:

Get help

Skill	Specific Actions
Get Help: Recognize an emergency.	A person is in trouble when: ▪ someone cannot wake up with tapping on the shoulder and shouting ▪ someone is hurt ▪ someone cannot move ▪ someone is sick ▪ people are fighting ▪ there is smoke in the room, home, or building
Stay safe.	Go to a safe place: ▪ into the next room ▪ out of the home or building ▪ a safe distance from a motor vehicle crash or fire
Tell an adult.	Shout or call for an adult's help: ▪ baby-sitter ▪ teacher ▪ family ▪ other Dial the emergency number: ▪ answer the dispatcher's questions ▪ follow the dispatcher's instructions ▪ remain on the telephone until the dispatcher says to hang up

First-Second Grade (Children Approximately 7–8 Years of Age) (continued)

Educational Considerations

Child Development Category	Application	Examples of Education Strategies
Cognitive Development	Young children: ▪ make sense of the world through concrete objects and ideas ▪ focus on one aspect of a situation ▪ may experience fear or anxiety when descriptions of emergency situations are too graphic or involve family members ▪ focus on results rather than motivation	For education: ▪ Use a hands-on technique or role playing. ▪ Keep content simple; avoid medical or confusing terminology. They do not need to distinguish between a serious and minor health problem. ▪ Give nonthreatening examples when teaching. ▪ Results are recognizing that someone needs help, staying safe, getting an adult to help. Performing additional tasks will distract and confuse them.
Psychomotor development	▪ learn best by doing	▪ Use role playing. ▪ Have them sing or shout the emergency telephone number. ▪ Walk/run/shout to get an adult's help or be safe. ▪ Emphasize what they physically can do (e.g., run, shout) instead of what they can't do. ▪ Create or play an organized or board game[1] using emergency skills. ▪ Draw a picture[1] of themselves performing basic emergency lifesaving skills.

CHILD DEVELOPMENT CATEGORY	APPLICATION	EXAMPLES OF EDUCATION STRATEGIES
Social/Moral development	▪ have an evolving sense of right and wrong. They blame themselves if something goes wrong or they do not succeed, which can adversely affect the child's sense of self-esteem and self-competence.	▪ Emphasize that their moral obligation is to stay safe. Emphasize that care is hindered if both the victim and the child need to be rescued. Support their decision to avoid a situation in which they feel uncomfortable. ▪ Acknowledge that even if they have performed the emergency lifesaving skills as taught, the person may die, and they should not blame themselves. ▪ Avoid teaching that saving lives is a moral responsibility.

References

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THIRD AND FOURTH GRADES (CHILDREN 9–10 YEARS OF AGE)

EMERGENCY SKILLS:

Get help.
Support the airway.
Support breathing.
Support circulation.

SKILL	SPECIFIC ACTIONS
Get help: Recognize an emergency.	A person is in trouble when: ▪ someone cannot wake up with tapping on the shoulder and shouting ▪ someone is hurt ▪ someone cannot move ▪ someone is sick ▪ people are fighting ▪ there is smoke in the room, home, or building
Stay safe.	Personal safety: ▪ Check the scene—Where is the scene? Who is involved? What happened? If unsafe or uncomfortable, go for help. ▪ If the scene is safe, shout "Are you OK?" ▪ Use personal protection.
Tell an adult.	Shout or call for an adult's help; assist an adult who is at the scene; go to the closest location for help. Dial the emergency number: ▪ Answer the dispatcher's questions. ▪ Follow the dispatcher's instructions. ▪ Remain on the telephone until the dispatcher says to hang up.
Support the airway.	▪ open the airway ▪ assist the person who is choking ▪ relieve an obstructed airway
Support breathing.	▪ look, listen, feel for breathing ▪ help with breathing (e.g., positioning) ▪ perform rescue breathing
Support circulation.	▪ help with positioning (e.g., keep the person still) ▪ stop or control severe bleeding

Third and Fourth Grades (Children Approximately 9–10 Years of Age) (continued)

Educational Considerations

Child Development Category	Application	Examples of Education Strategies
Cognitive Development	Schoolchildren: ▪ make sense of the world through concrete objects and ideas	For education: ▪ use a hands-on technique or role playing
	▪ are able to keep two ideas in mind at once and can make simple comparisons. Have a limited understanding of the human body and how it works	▪ keep content simple yet meaningful when comparing and contrasting serious and minor health problems. Avoid medical or confusing terminology. Consider using a Gellert drawing. Here, an outline of a body is drawn onto paper, and the child is asked to draw and label the internal organs. The instructor can use these drawings to correct misconceptions and to further explain breathing and circulation.
	▪ focus on results rather than motivation	▪ results are applying the basic emergency lifesaving skills sequence to the best of their ability as taught in class.
	▪ identify with role models, such as celebrities, teachers or other adults[1]	▪ When teaching, be a good role model. Demonstrate empathy and respect for others. Have the students draw a picture of their hero or role model such as a picture of them helping someone in an emergency. Have the students share and discuss their drawings. Consider giving students tangible items, such as T-shirts or other materials with appropriate emergency-related logos, to relate with their role models.[1]

CHILD DEVELOPMENT CATEGORY	APPLICATION	EXAMPLES OF EDUCATION STRATEGIES
Psychomotor development	▪ learn best by doing ▪ are physically strong, but may overestimate their abilities ▪ learn through tactile (touch) exercises [2]	▪ Use role playing and partnering to perform skills. ▪ Use small groups, giving everyone an equal opportunity to participate. ▪ Create and play a board game or organized game using emergency skills.[2] ▪ Emphasize and practice what they physically can do. ▪ Encourage students to touch and play with mannequins and equipment. Note the differences in texture, compliance, etc. during skill introduction.
Social/Moral development	▪ have an evolving sense of self-esteem and self-confidence [1] ▪ may have had an experience with EMS or hospitals and may have anxiety during discussions. Students may have a fear of blood or other bodily fluids or functions ▪ spend more time away from home, such as at school or outdoor activities, often without adult supervision ▪ have an evolving sense of right and wrong. They blame themselves if something goes wrong or they do not succeed, which can adversely affect the child's fragile sense of self-esteem and self-competence	▪ Praise students for their efforts.[1] ▪ Consider asking the students "Did you ever have an emergency where you or someone was hurt or ill? Would you like to share with the group what happened and how you felt?" Avoid recreating these students' scenarios during the teaching session to avoid additional anxiety to the student. Use play sessions or scenarios to decrease their fears or anxieties about blood, etc.[1] ▪ Emphasize that their moral obligation is to stay safe. Emphasize that care is hindered if both the victim and the child need to be rescued. Support their decision to avoid a situation in which they feel uncomfortable. ▪ Acknowledge that even if they have performed the emergency skills as taught, the person may die, and they should not blame themselves. ▪ Avoid teaching that saving lives is a moral responsibility.

References

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Fifth, Sixth, and Seventh Grades (Children Approximately 11–13 Years of Age)

Emergency Skills:

Get help.
Support the airway.
Support breathing.
Support circulation.

Skill	Specific Actions
Get help: Recognize an emergency.	A person is in trouble when: ▪ someone cannot wake up with tapping on the shoulder and shouting ▪ someone is hurt ▪ someone cannot move ▪ someone is sick ▪ people are fighting ▪ there is smoke in the room, home, or building ▪ there is a motor vehicle crash
Stay safe.	Personal safety: ▪ Assess the scene—Where is the scene? Who is involved? What happened? If unsafe or uncomfortable, go for help. ▪ If the scene is safe, shout "Are you OK?" ▪ Use personal protection.
Tell an adult.	Shout or call for an adult's help; assist an adult who is at the scene; go to the closest location for help; if two or more children are present, send one for help and have others stay at the scene to render aid, if it is safe. Dial the emergency number: ▪ answer the dispatcher's questions ▪ follow the dispatcher's instructions ▪ remain on the telephone until the dispatcher says to hang up
Support the airway.	▪ open the airway (head tilt/chin lift) ▪ assist the person who is choking ▪ relieve an obstructed airway
Support breathing.	▪ look, listen, feel for breathing ▪ help with breathing (e.g., positioning) ▪ perform rescue breathing
Support circulation.	▪ help with positioning (e.g., keep the person still) ▪ stop or control severe bleeding ▪ administer chest compressions ▪ operate an automatic external defibrillator

FIFTH, SIXTH, AND SEVENTH GRADES (CHILDREN APPROXIMATELY 11–13 YEARS OF AGE) (CONTINUED)

EDUCATIONAL CONSIDERATIONS

CHILD DEVELOPMENT CATEGORY	APPLICATION	EXAMPLES OF EDUCATION STRATEGIES
Cognitive Development	Schoolchildren in this age group: ▪ have a more realistic grasp of injuries, disease, and death than younger children ▪ need activities that they can complete successfully but are challenging enough to provide them with a feeling of accomplishment	For education: ▪ Introduce basic health care terminology into lectures and discussion. Use anatomically correct models, drawings, or other visual aids. ▪ Furnish opportunities for students to keep trying until they succeed. Offer positive reinforcement. Encourage discussion and participation. Certain scenarios may make children uncomfortable; be sensitive to these feelings and emphasize how children can help.[1]
Psychomotor Development	▪ may not have the physical strength to relieve an airway obstruction or deliver CPR ▪ are able to receive education about AED operation and access to AED's ▪ may have previous first aid education from social organizations or family members	▪ Allow rest periods during practice sessions to avoid fatigue and frustration. ▪ Automatic external defibrillator's are becoming an important part of CPR and first aid care.[2] ▪ Ask children to demonstrate what they already know.[3] They may feel more comfortable practicing their skills on their partners at the same time.[3] Practice sessions should include small groups of three or four students for short periods of time.[4] Groups may self-select into pairs or same-gender configurations.[5]

Child Development Category	Application	Examples of Education Strategies
Social/Moral Development	▪ may be torn between their fear and sense of duty to assist another person. The child may overcompensate for this fear by placing him or herself in harm's way instead of going for help ▪ are more independent than younger children and more likely to come across an emergency involving a stranger, such as walking to or from school	▪ Emphasize that it is normal for a person to be frightened in an emergency situation. Discuss how one would feel being injured or ill; compare these feelings with being a "helper." ▪ Reinforce that their moral obligation is to stay safe. Emphasize that care is hindered if both the victim and the child need to be rescued. ▪ Avoid teaching that saving lives is a moral responsibility. ▪ Provide a list of resources (e.g., guidance counselors, teachers, parents) that children can talk with following an emergency incident.

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[1]American Trauma Society. (1996). *Bystander care of the injured course.* Upper Marlboro, Md.: Author.

[2]Atkins, D., Hartley, L., & York, D. (1998). Accurate recognition and effective treatment of ventricular fibrillation by automated external defibrillators in adolescents. *Pediatrics, 101* (3), 393–397.

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[5]Busch, B. (1992). Developmental assessment of children of school age and adolescents. In M. Levine, W. Carey, & A. Crocker, (Eds.). *Developmental behavioral pediatrics* (2nd Ed.) (p. 625). Philadelphia: W. B. Saunders Co.

EIGHTH THROUGH TWELFTH GRADES (CHILDREN APPROXIMATELY 14–18 YEARS OF AGE)

EMERGENCY SKILLS:

Get help.
Support the airway.
Support breathing.
Support circulation.

SKILL	EXPECTATIONS
Get help: Recognize an emergency.	An emergency exists when an infant, child, or adult: ▪ cannot wake up ▪ is injured or ill ▪ is exposed to fighting or to weapons ▪ is exposed to unsafe situations, such as smoke, alcohol, or drugs ▪ is involved in a motor vehicle crash
Stay safe.	Personal safety: ▪ Assess the scene. Where is the scene? Who is involved? What happened? If unsafe or uncomfortable, go for help. ▪ If the scene is safe, shout "Are you OK?" ▪ Use personal protection—gloves.
Tell an adult.	Obtain additional assistance from an adult; assist an adult who is at the scene; if the oldest or most experienced person at the scene, be in charge until professional help arrives; send one adolescent for assistance, if needed. Dial the emergency number: ▪ describe the scene (what happened, the number of people involved, care rendered) ▪ answer the dispatcher's questions ▪ follow the dispatcher's instructions ▪ remain on the telephone until the dispatcher says to hang up
Support the airway.	▪ open the airway (head tilt/chin lift) ▪ assist the person who is choking ▪ relieve an obstructed airway
Support breathing.	▪ look, listen, and feel for breathing ▪ help with breathing (e.g., positioning) ▪ perform rescue breathing
Support circulation.	▪ help with positioning (e.g., keep the person still) ▪ stop or control severe bleeding ▪ administer chest compressions ▪ operate an automatic external defibrillator

Eighth through Twelfth Grades (Children Approximately 14–18 Years of Age) (continued)

Educational Considerations

Child Development Category	Application	Examples of Education Strategies
Cognitive Development	Adolescents: ▪ use abstract thinking to systematically solve problems	For education: ▪ During role playing and small group work, increase the complexity of the teaching scenarios. For example, increasing the number of victims needing attention affords adolescents the opportunity to prioritize their actions and compare and contrast victims' need for care. Certain scenarios may make adolescents uncomfortable; be sensitive to these feelings and emphasize how they can help.[1]
	▪ have a broader understanding of the human body and how it works	▪ Use health care terminology during lectures and discussions. Use anatomically correct models, drawings, or other visual aids.
	▪ may be responsible for infants and children during babysitting or they may be parents themselves; thus, they need to learn about the potential for poisoning for infants and children	▪ Incorporate content from local drug and alcohol awareness programs or from the local poison control center to explain the effects of chemicals on the body. Include content on how these substances affect infants and children. ▪ Include chemical exposure in teaching scenarios, including exposure to prescription, nonprescription and illicit drugs, alcohol, and household chemicals.

CHILD DEVELOPMENT CATEGORY	APPLICATION	EXAMPLES OF EDUCATION STRATEGIES
Psychomotor Development	▪ generally have the physical strength to perform CPR ▪ should receive training in infant and child CPR, due to their increased exposure to younger children ▪ are able to receive education in AED operation ▪ should refresh these skills upon high school graduation	▪ Encourage skill demonstration in small groups, despite self-consciousness, as skill performance is essential to skill retention. Have adolescents certified as EMT's or certified in CPR or first aid lead small groups. ▪ Have infant and child CPR mannequins available for practice. ▪ AED's are becoming an important part of CPR and first aid care for both adults and children[2] ▪ Encourage students to continue with first aid and CPR courses after high school graduation. Invite local EMS and health care agencies to share their experiences and involve the adolescents in community activities. Encourage adolescents to obtain instructor-level training. Once certified, instructors need encouragement and opportunities to teach to maintain their productivity.[3] Invite them back to the school to teach CPR and first aid after high school graduation.
Social/Moral Development	▪ are very concerned with peer pressure and are far more interested in what their peers think than in winning the approval of teachers and other adults ▪ tend to hesitate offering assistance when in a group. In a group, adolescents and adults often wait for someone else to act, even if they have been trained in emergency skills. The larger the group, the less likely it is that an individual will act.	▪ Utilize small groups to facilitate peer support and encouragement. Peer education and approval can be used to great advantage at this age. Students with mild intellectual disabilities were able to teach first aid skills to their peers with moderate intellectual disabilities. These students are important resources for teaching first aid skills.[4] ▪ Address this issue through role playing and group discussion to help adolescents feel confident in using the skills they have learned. Have students alternate between calling for help and providing basic emergency life-saving skills.

CHILD DEVELOPMENT CATEGORY	APPLICATION	EXAMPLES OF EDUCATION STRATEGIES
Social/Moral Development	▪ have an increased concern with right and wrong, which is a strong motivator to learn and to act. Adolescents can be very concerned with "doing good." They enjoy struggling with moral and political issues and use these struggles to form their identity. ▪ are gaining independence from the family and are likely to believe that they are capable of performing emergency skills without obtaining adult assistance ▪ are more likely to be involved in or exposed to emergency situations in which adults are not present. This likelihood increases over the next few years, as they are permitted to stay out later in the evening and as they learn to drive	▪ Reinforce that "good people help." Ask how the adolescents would feel if they were injured or ill and no one came to their aid.[1] However, continue to emphasize getting help and staying safe. Provide resources for counseling or debriefing following an emergency; review signs of post-traumatic stress disorder. ▪ Increase the complexity of scenarios and possible responses, e.g., being at a party where drugs and guns are involved and someone becomes ill or injured. ▪ Emphasize "cause and effect" relationships; emphasize forethought and planning before finding oneself in an awkward or potentially dangerous situation. Incorporate motor vehicle crash scenarios into the teaching sessions.

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Section V: Developing Basic Emergency Lifesaving Skills Training Opportunities

Introduction

This section outlines the process for applying the BELS Framework to the evaluation and selection of basic emergency lifesaving skills training programs and curricula. This process is useful for teachers, health care professionals, and other adults interested in providing basic emergency lifesaving skills training to students.

1. Convene A Team of Interested Individuals

The introduction of basic emergency lifesaving skills into an existing school curriculum or social organization requires planning and foresight. A team approach is helpful, as collaboration is encouraged, early “buy in" is achieved, and everyone feels confident with the planned approach. Team members include teachers; parents; adolescents with EMT or CPR/first aid training; public safety professionals, health care professionals from local hospitals, clinics and private practices; business people; and local chapter affiliates of national organizations and agencies. Appendix B lists information for these organizations and agencies.

The basic emergency lifesaving skills in the BELS Framework should be introduced and reinforced annually through age-appropriate teaching strategies. Adequate time for their introduction, acquisition, and reinforcement should be allotted. The amount of time is based on the audience’s age and developmental level; reason for teaching these skills (e.g., babysitting course); expected outcome (e.g., merit badge or community service requirement); and course time requirements (e.g., CPR training may require eight hours).

Once the team has agreed on the amount of time devoted to the skills training, the team agrees on the course content.

2. Review Existing Educational Programs And Curricula

Numerous educational programs and curricula for teaching basic emergency lifesaving skills to children and adolescents are available. These materials may be obtained for free, may have a fee for their use, or may be downloaded from the Internet. Examples of these texts and programs are listed in Appendix B. Advantages to using existing programs are that they have validity and have instructors trained in the course materials. Certified instructors are required to teach CPR and first aid courses in accordance with

the policies set forth by their associations. Disadvantages are that the programs may not be available on a local level or they may require more time or money than is available.

When reviewing educational materials, the BELS skills content should be clearly identifiable and should be written in the sequence described in Section III. The program's education strategies should be developmentally appropriate for the audience, as described in Section IV. The selected educational program should have sequential components that build upon previous knowledge over time; selecting a stand-alone program will not meet students' needs over time. The program should meet the audience's ethnic, religious, gender, cultural, and geographic needs. If the existing program does not meet these needs, knowledgeable individuals should make the appropriate modifications.

Table 5-1 applies Banks' characteristics of multicultural schools to delivery of basic emergency life-support skills training. The goal is for the audience to safely and cor-

TABLE 5-1

MULTICULTURAL CONSIDERATIONS APPLIED TO BASIC EMERGENCY LIFE-SUPPORT SKILLS TRAINING.[1]

CONSIDERATION	APPLICATION TO BASIC EMERGENCY LIFE- SUPPORT SKILLS TRAINING
Educators have high expectations for all students as well as positive attitudes toward them. They respond to all students in positive and caring ways.	Teachers/trainers call on all students, giving as many as possible an opportunity to participate. Students' feelings/beliefs about health and rendering assistance are respected. All students are treated respectfully and equally.
The curriculum reflects the experiences, cultures, and perspectives of a wide range of cultural and ethnic groups, as well as both genders.	Teaching scenarios include culturally and ethnically diverse participants and situations reflective of the audience's experience.
The teaching styles match the students' learning, culture, and motivation.	Instructors know the audience for whom the instruction will be given and utilize teaching strategies and scenarios that reflect students' culture and ethnicity.
Educators show respect for the students' first language and dialects.	Students' verbal skills are not demeaned or belittled. Instructors seek clarification on words or phrases not understood to enhance learning and understanding.
Instructional materials show events, situations, and concepts from the perspectives of various cultural, ethnic, and racial groups.	Texts, mannequins, and supplies reflect the audience's ethnic, cultural, and racial backgrounds.
Testing procedures are culturally sensitive.	Instructors know the cultural, gender, and social norms expected of students prior to testing. These norms may differ from the expectations of a standard curriculum, and respect for the students must be maintained.
Teaching strategies should be involving, interactive, personalized, and cooperative.	All viewpoints are considered seriously. All students are afforded an opportunity to participate; their knowledge, skills and morals are respected.

References

[1]Considerations adapted from: Banks, J. *An introduction to multicultural education* (2nd Ed). (pp. 18–20, 111), Boston: Allyn and Bacon.

rectly deliver basic emergency lifesaving skills within these considerations. For example, children living in rural areas may not have 911 capabilities, or there may be an hour's wait for EMS. An educational program must address these issues during skills training.

The team of interested community leaders considers what the program will cost to implement, including student and instructor workbooks, equipment rental, instructor time and travel, and other costs. The team explores potential funding sources, such as charging a course fee, utilizing existing funds, and obtaining donations or grants from local philanthropic organizations. Monetary donations or in-kind contributions (time, advertising) may be secured through local businesses; pediatricians, family practice physicians, or other health care professionals; EMS agencies; and hospitals.

The setting for the educational program is another factor to consider. There should be enough space for small groups, equipment, and helpers. Adequate lighting is necessary. Personal protective equipment, cleaning supplies, and other materials for hygiene are needed as well.

Once a program is selected, the program is scheduled and implemented.

3. Teaching And Evaluating the Program

Schedule the lifesaving program in advance and allot adequate time for registration. At least one team member should be available during the educational program to assure that the team's expectations are met and that the content is in accordance with the BELS Framework. Parents may be invited and encouraged to participate in the program. The team member should observe the audience's interest in the content; their ability to stay on task; the rapport between the instructor and the audience; the instructor's ability to communicate with the audience; and the use of developmentally appropriate and culturally appropriate teaching strategies.

At the completion of the program, the instructor should meet with the team member and review the audience's response and the applicability of the program content. Finally, the audience should be asked individually and as a group for their impressions of the program.

The team should reconvene and evaluate the program's content and the audience's response. At this time, the team should decide whether to continue with the program for the following year or select a different program.

Conclusion

Basic emergency lifesaving skills curricula are available from a variety of professional sources. Each curriculum has its own objectives, content, and teaching strategies. Teachers, parents, and others interested in providing educational opportunities for emergency skills training need to objectively evaluate existing curricula for their congruence with the BELS Framework, time required for implementation, cost, space required, and audience needs. Conducting evaluations while the program is being taught, and assessing the program's effects on students at its completion, can influence future opportunities for basic emergency lifesaving skills training in school and community settings. Table 5-2 summarizes these steps in a checklist format for efficiency.

TABLE 5-2

CHECKLIST FOR PLANNING, IMPLEMENTING, AND EVALUATING A BASIC EMERGENCY LIFESAVING SKILLS TRAINING PROGRAM

ACTIVITY	TARGET DATE	ACTUAL DATE	RESPONSIBLE TEAM MEMBER	DECISION	COMMENTS
Convene a team of interested individuals: ▪ Identify six interested people. ▪ Contact the individuals; explain the purpose of the team. ▪ Develop the action plan. ▪ Divide the work and responsibilities among the members.					
Review existing educational programs and curricula: ▪ Contact the selected agencies, organizations, or publishers. ▪ Obtain copies of the program or manual to review. ▪ Determine if the content is developmentally appropriate for the audience, as described in Section IV. ▪ Are the skills developmentally appropriate? ▪ Are cognitive, psycho-motor, and social and moral development addressed through age-appropriate teaching strategies? ▪ Is enough time allotted for skill introduction? ▪ Is enough time allotted for skill practice? ▪ What are the instructor qualifications needed to teach the educational program?					

Activity	Target Date	Actual Date	Responsible Team Member	Decision	Comments
▪ Does the content build on previous experience and training? ▪ Does the content meet the audience's ethnic, gender, religious, cultural, and geographic needs?					
Estimate the educational program's costs: ▪ Calculate costs for student and instructor workbooks, equipment rental, instructor time, and travel. ▪ Explore potential funding sources, such as charging a course fee, utilizing existing funds, and obtaining donations or grants from local philanthropic organizations.					
Schedule and implement the educational program: ▪ Select the setting. ▪ Is the space adequate for teaching the educational program? ▪ Is room available for students to practice skills? ▪ Are restrooms accessible for ease of handwashing and cleaning equipment? ▪ Collaborate with the school or social organization to offer the educational program. ▪ Notify the students and parents in advance that the educational program will be held. ▪ Invite parents to attend the educational program.					

ACTIVITY	TARGET DATE	ACTUAL DATE	RESPONSIBLE TEAM MEMBER	DECISION	COMMENTS
Teach and evaluate the program: ▪ Assist, as needed, with pre-program preparations (meeting the instructors, assisting with equipment set-up). ▪ Observe the educational program. ▪ Is there rapport between the instructor and the audience? ▪ Is the instructor able to communicate effectively with the audience? ▪ Does the instructor use developmentally appropriate teaching strategies? ▪ How do the students respond to the content? ▪ How do the students respond to the instructor? ▪ Did the educational program meet the team's expectations? ▪ Meet with the instructor to review the audience's response and the applicability of the program content. ▪ Survey the audience individually and as a group to obtain their impressions of the educational program.					

Activity	Target Date	Actual Date	Responsible Team Member	Decision	Comments
Reconvene the team to evaluate the program's content and the audience's response: ▪ Discuss what worked and did not work for the audience. ▪ Decide to continue with the program for the following year (to build on the taught skills) or select a different program to meet the audience's needs.					

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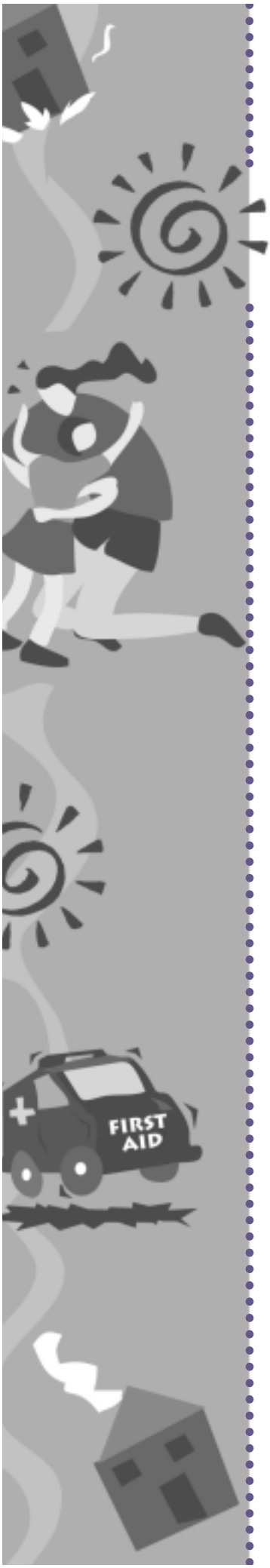
[1]Banks, J. (1999). *An introduction to multicultural education*. (2nd Ed.). Boston: Allyn and Bacon.



Section VI: Advocating for BELS

Introduction

The BELS Framework demonstrates that a need exists for basic emergency lifesaving skills training for students in a school setting. Sequential training undertaken by qualified professionals using developmentally-appropriate teaching strategies and activities promotes skill acquisition and retention. A team effort is needed to adequately facilitate and evaluate this undertaking. This section outlines future directions for basic emergency lifesaving skills training for students.

Advocacy Activities

Teachers, parents, and others interested in advocating for basic emergency lifesaving skills training for children and adolescents have a variety of options. These options include: 1) policy development, 2) research, and 3) education. While these efforts may take years to come to fruition, persistence will be rewarded.

Policy Development

- Convene a team of interested community members, as suggested in Section V. Using the BELS Framework, as well as data from the community, develop a position statement on the importance of basic emergency lifesaving skills training for students. The local health department, hospitals, or public safety agencies may be able to provide data on the number of people requiring CPR or other first aid measures. Such information emphasizes the need for training in the student population.
- Schedule appointments with local school board officials, state representatives, or government agencies to review the position statement. Other interested parties include organizations and agencies listed in Appendix B, health care professionals (including pediatricians[1]), and others. Involve the media throughout this process.
- Collaborate with teachers, school administrators, school board officials, and others to incorporate this training into the school curriculum. Volunteer to review curricula and lend assistance. Ask if the local school district has a school health advisory council to address policies and programs related to health education. Such councils frequently are comprised of teachers, parents, administrators, health care professionals, counselors, school board members, students, and members of churches or religious organizations.[2] Volunteer to establish, serve on, or advise the council.
- Continue to advocate until basic emergency lifesaving skills training is put into school curricula.

Research

- Collaborate with teachers and health care professionals on research related to basic emergency lifesaving skills training. Compare student performance before and after training, as well as periodically. Do skills deteriorate, improve, or remain the same? Does students' knowledge decrease, increase, or remain unchanged over time? Which teaching methods are best for presenting these skills?
- Conduct periodic literature reviews on the subject of teaching resuscitation or CPR to children. Also, access websites for information on this topic. Creative teaching strategies may be available that are not known in the local school.

Education

- Schedule appointments with the local affiliates of the organizations listed in Appendix B to learn about CPR and first aid training.
- Peruse local bookstores for books on CPR and first aid for young audiences.
- Become a CPR and/or first aid instructor.
- Educate others on the importance of basic emergency lifesaving skills training for students.
- Survey parents to determine their opinions about basic emergency lifesaving skills training. Among 302 parents surveyed about their children's school health education, 88.4% perceived first aid to be a very important component, ranking it third behind education on alcohol/drugs and nutrition.[3] Documenting parents' opinions provides evidence for inclusion of basic emergency lifesaving skills training in their children's schooling.
- Encourage parents and children to attend CPR and first aid classes together. Davis reported on efforts to provide CPR training to an entire community during a mass training session.[4] The poor turnout of citizens was disappointing; future mass training sessions should take a family approach where children and parents can learn CPR together.
- Evaluate curricula for evidence of cultural, ethnic, and gender sensitivity.

Helping Students Who Have Helped Others

The purpose of teaching basic emergency lifesaving skills is to provide students with cognitive, psychomotor, and social and moral preparation for actually using these skills to assist others. Teachers, parents, and health care professionals need to be aware of the emotional impact that occurs when students assist others in emergency situations.

Children and adolescents who provide basic emergency lifesaving skills should be praised for their actions and supported in their decision making during the emergency care situation. Following their involvement in an emergency situation, whether as a victim or emergency skill provider, students must receive a counseling (debriefing) ses-

sion with a qualified individual, such as a school counselor. The counselor reviews with the student the events that took place and helps the student sort through any feelings, emotions, or thoughts about the emergency situation. Students need to know that it is normal to be upset after they have assisted in an emergency situation.

A counseling or debriefing session with the parents also is helpful so they know what to expect in their child's behavior. Following their involvement in an emergency situation, children and adolescents may exhibit signs of emotional distress, such as an inability to sleep or concentrate, preoccupation with the event and their actions, decreased appetite, a lack of interest in academic and social activities, and an exaggerated concern for the safety of their families. Should these behaviors persist, additional counseling from a qualified professional should be obtained.

Conclusion

Basic emergency lifesaving skills are known to improve the victims' outcomes prior to the arrival of EMS or other professionals. Basic emergency lifesaving skills training, taught consistently throughout the school years with developmentally appropriate strategies, will enhance students' confidence and ability in recognizing and responding to emergency situations. Teachers, parents, and community members can collaborate with available resources to offer such training in the school setting. School systems need to have the support of teachers, parents, and administrators—as well as the monetary and human resources—to effectively offer this skill training. Such exposure to emergency skills training during childhood and adolescence may prompt adults to participate and may encourage students to continue their training through adulthood.

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[3]Colwell, B., Forman, M., Ballard, D., & Smith, D. (1995). Opinions of rural Texas parents concerning elementary school health education. *Journal of School Health, 65* (1), 9–13.

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SECTION VII: APPENDICES

APPENDIX A
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Appendix B: Agencies, Organizations, and Publishers

Numerous agencies, organizations, and publishers have educational products, such as curricula and manuals, for teaching basic emergency lifesaving skills to children, adolescents, and adults. The contact information for many of these agencies, organizations, and publishers is listed below. The list is not exhaustive or comprehensive. When selecting educational products, contact the agency, organization, or publisher; obtain information about the educational products; and apply the BELS guidelines offered in Section V.

Agencies, Organizations, and Publishers

Name and Contact Information	Educational Products (curricula, manuals)	Intended Audience	Content
National Highway Traffic Safety Administration (800) 424-9393 www.nhtsa.dot.gov	Make the Right Call First There, First Care, Bystander Care for the Injured Awareness Kit	Late school-age children and adolescents Adult	Obtaining help Assessment First aid

Name and Contact Information	Educational Products (curricula, manuals)	Intended Audience	Content
American Heart Association (800) AHA-USA1 www.americanheart.org	HeartSaver AED	Adults	Adult CPR AED use
	Choke is No Joke	Kindergarten through Grade 5	Airway support Rescue breathing
	Pediatric Basic Life Support	Adolescents Adults	Injury prevention Safety Infant and Child CPR Relief of obstructed airways
American Red Cross (703) 248-4222 www.redcross.org	First Aid for Children Today (FACT)	Kindergarten through Grade 3	Healthy living Injury prevention Water safety Road safety Environmental care
	Basic Aid Training (BAT)	School Age (ages 8–10 years)	First aid Assessment Obtaining help Rescue breathing Water safety Vehicle safety
	American Red Cross Child Care Course	Adults	Injury prevention First aid Obtaining help Emergency assessment Rescue breathing Preventing infectious disease Caring for the ill

Name and Contact Information	Educational Products (Curricula, Manuals)	Intended Audience	Content
American Red Cross (703) 248-4222 www.redcross.org	Community First Aid and Safety	Adults	First aid Assessment Obtaining help Rescue breathing CPR Injury prevention
	First Aid Responding to Emergencies	Adults	First aid Assessment Obtaining help Rescue breathing CPR Healthy lifestyles
American Safety and Health Institute (800) 246-5101 www.ashinstitute.com	Basic First Aid	Adults	First aid
	Pediatric First Aid	Adults	Pediatric first aid Childhood illness Injury prevention
	Universal First Aid	Adults	First aid Rescue and moving patients
	CPR	Adults	Infant, child, and adult CPR Rescue breathing Choking
	Child Care and Babysitting	Adolescents (12–18 years)	CPR First aid Child care Child safety
American Trauma Society (800) 556-7890 www.amtrauma.org	Bystander Care of the Injured	Adults	Emergency skills for serious injury

Name and Contact Information	Educational Products (curricula, manuals)	Intended Audience	Content
Boy Scouts of America (800) 323-0732 www.bsa.scouting. org	Boy Scout Handbook	Late school age to early adolescence (11–14 years)	Water safety Water emergencies First aid Assessment Obtaining help Rescue breathing CPR
Girl Scouts of America (800) 811-9342 www.girlscouts.org	The Guide for Daisy Girl Scout Leaders	Young children (5–6 years)	Safety
	Brownie Girl Scout Handbook	Young school age (6–8 years)	Safety Injury prevention First aid Obtaining help Choking Fire safety
	Junior Girl Scout Handbook	School age (9–11 years)	Safety Health Injury prevention First aid Obtaining help Water emergencies Choking Fire safety
	Cadette Girl Scout Handbook	Adolescents (12–14 years)	Health and fitness Safety First aid
	A Resource Book for Senior Girl Scouts	Adolescents (14–17 years)	First aid CPR

Name and Contact Information	Educational Products (curricula, manuals)	Intended Audience	Content
National Safety Council (800) 621-7619 www.nsc.org	First Aid and CPR for Infants and Children	Adults	Injury/illness prevention First aid Rescue breathing Choking CPR Obtaining help Assessment Caring for the ill Child abuse
	Infant and Child CPR	Adults	Injury/illness prevention Rescue breathing Choking CPR Obtaining help Assessment
	Good Samaritan	Children and adults	Illness/injury recognition Assessment Caring for life-threatening emergencies
	Automated External Defibrillation (AED)	Adults	Obtaining help Assessment Using an AED
Save-A-Life Foundation (847) 928-9683	Save a Life for Kids	Preschool through School Age (ages 4-12 years)	First aid Assessment Obtaining help CPR

Name and Contact Information	Educational Products (curricula, manuals)	Intended Audience	Content
Glencoe/McGraw-Hill Publishing www.glencoe.com	Teen Health, Course 1	Late school age to early adolescence	Obtaining help First aid Rescue breathing
Meeks Heit Publishing Company (800) 682-6882 www.meeksheit.com	Comprehensive School Health Education	Kindergarten through 12th grade (ages 6–18 years)	First aid Obtaining help Rescue breathing CPR
Prentice Hall School Publishing (800) 848-9500 www.phschool.com	Prentice Hall Health: Skills for Wellness	Adolescents	First aid Assessment Obtaining help Rescue breathing CPR Water safety

BELS Evaluation Form

We would like to know what you think about the BELS Framework and appreciate you completing this evaluation form.

❶ I have used the BELS Framework to (check all that apply):

____Inform myself to teach emergency skills to children and adolescents

____Prepare for a training or workshop

____Develop teaching materials

____Teach emergency skills to children and adolescents

____Advocate the teaching of emergency skills to children and adolescents

____Other (Please elaborate on other side.)

❷ The BELS Framework is

____Very useful

____Useful

____Somewhat useful

____Not useful

❸ The skill sequence outlined in the BELS Framework

____Accurately lists those emergency skills that should be taught to children and adolescents

____Includes too many emergency skills

____Omits important emergency skills that children should learn (Please elaborate on other side.)

❹ The match of emergency skills to grade and age levels in the BELS Framework is

____Very accurate

____Accurate

____Less than accurate

____Seriously lacking in accuracy

____Not sure/don't know

❺ The material on child development in the BELS Framework is

____Very useful

____Useful

____Somewhat useful

____Not useful

____Not sure/don't know

❻ The material on teaching strategies in the BELS Framework is

____Very useful

____Useful

____Somewhat useful

____Not useful

____Not sure/don't know

If you have any additional thoughts or comments on the BELS Framework, we would like to hear them. Thank you.

Please remove this form from this publication and return to:

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