1. Prospective Randomized Study on the Effect of Prehospital Pediatric Intubation on Outcome
2. Pediatric Medical Emergencies Interactive Videodisc Program
3. Training of Paramedics in Pediatric Endotracheal Intubation
4. Pediatric Teaching Resources for Paramedics
5. Educational Pediatric Pain Management Program for the EMT-P
7. Impact of an Educational Module on Prehospital Pain Management in Children
8. Teaching Resource for Instructors in Prehospital Pediatrics for EMTs (TRIPP BLS)
10. Small Victims, Big Challenges: Refining Pediatric Disaster Triage Algorithms and Education in the Prehospital Setting
11. Michigan Pediatric Errors and Excellence Discovery with Simulation (MI-PE2DS)
12. EMS Child Protection Education Project
14. Web-based Quality Improvement and Self Study Educational Program for Pediatric Emergency Care Providers
15. National EMS Child Protection Education Project
16. Children with Special Health Care Needs: A Model Program to Improve Prehospital and Emergency Care
17. Pediatric Rapid Sequence Intubation Training CD-ROM
Prospective Randomized Study on the Effect of Prehospital Pediatric Intubation on Outcome

Institution:
Research and Education Institute Harbor-UCLA Medical Center
Funding Type:
Targeted Issue
State:
CA
Project Period:
10/01/1993-09/30/1995
Total Award Amount:
$555,188.00
Principal Investigator:
Marianne Gausche, MD
E-Mail:
MGausche@emedharbor.edu

Project Overview:
The goals of this project are to: (1) educate all paramedics in Los Angeles and Orange Counties in pediatric endotracheal intubation; (2) upgrade previously attained pediatric airway management skills including bag-valve-mask ventilation, obstructed airway management, and trauma airway management; (3) evaluate the success and complication rates of pediatric intubation by paramedics; (4) evaluate the efficacy of the treatments (bag-valve-mask ventilation alone versus bag-valve-mask ventilation followed by endotracheal intubation) in the prehospital airway management of pediatric patients; (5) determine the duration of time that paramedics retain an adequate skill level after being trained in bag-valve-mask ventilation and intubation; (6) estimate the system and provider agency cost of the additional training; (7) estimate the cost-per-life-saved of including pediatric intubation within the paramedic's scope of practice; and (8) establish a large, urban EMS research coalition.

Keywords:
Airway Management, Cost Benefit, Equipment and Supplies, Provider Education, Research Education of prehospital providers in pediatrics. National Task Force studies EMS pediatric care

Year Published:
1998
Authors:
Gausche M
Abstract:

PMID Number:
10177896
Manuscript
Article Title:
The education of out-of-hospital emergency medical personnel in pediatrics: report of a national Task Force
Year Published:
1998
Authors: Gausche M, Henderson DB, Brownstein D, Foltin GL
Abstract:
Name of Journal: Prehosp Emerg Care
PMID Number: 9737409

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Pediatric Medical Emergencies Interactive Videodisc Program

Idaho Emergency Medical Services
Funding Type: Targeted Issue
State: ID
Project Period: 10/01/1991-09/30/1994
Total Award Amount: $0.00

Principal Investigator: Paul Anderson
Project Overview: In an effort to remedy the deficiency in access to quality pediatric continuing education, new approaches using interactive videodisc technology need to be implemented. The goals of this project are to (1) reduce the mortality and morbidity experienced by children in medical emergency situations, through improved training of emergency medical services (EMS) personnel using new interactive multimedia technology; and (2) design and produce a courseware program for prehospital EMS personnel to help maintain their life-saving knowledge and skills.
Keywords: Provider Education, Transport

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Training of Paramedics in Pediatric Endotracheal Intubation

Institution: New York University School of Medicine Department of Pediatrics
Funding Type: Targeted Issue
State: NY
Project Period: 10/01/91-12/31/93
Total Award Amount: $200,000.00
Principal Investigator: George Foltin, MD/Michael Tunik, MD
E-Mail: GFoltin@maimonidesmed.org
Project Overview:
The goals of this project are to (1) evaluate the pediatric advanced life support component of New York City's emergency medical services (EMS) system; (2) enable the paramedics of New York City's EMS to intubate all children regardless of age; and (3) develop a quality assurance mechanism for pediatric advanced life support that will continue after the funding period and serve as a model for other EMS systems.
Keywords: Airway Management, Provider Education, Quality Assurance and Improvement

Pediatric Teaching Resources for Paramedics

Institution: University of Rochester School of Medicine and Dentistry
Funding Type: Targeted Issue
State: NY
Project Period: 10/01/1991-03/31/1994
Total Award Amount: $0.00
Principal Investigator: Elise van der Jagt, MD, MPH
E-Mail: elise_van_der_jagt@urmc.rochester.edu
Project Overview: N/A

Educational Pediatric Pain Management Program for the EMT-P

University of Texas Southwestern (grant moved from MEDICAL COLLEGE OF WISCONSIN)
Funding Type: Targeted Issue
State: TX
Project Period: 09/1/2008-08/31/2011
Total Award Amount: $472,693.00
Project Overview:
The effects of untreated pain in children are well documented in the literature. However, pain assessment (PA) and pain management (PM) remains inadequate, particularly in children. Education of emergency medical technicians-paramedics shows promise in improving PA and PM in children. The goals of this project are to (1) implement a previously piloted prehospital educational program (PAMPPER) to increase prehospital PA and PM in children; (2) evaluate the effect of PAMPPER on EMT-P documentation of PA and PM practice, specifically the use of narcotic analgesia, in eligible children at each site; and (3) increase EMT-P knowledge and knowledge retention of PA and PM.

Keywords:
Pain Management, Provider Education
Prehospital pain management: current status and future direction

Year Published:
2006
Authors:
Hennes H, Kim MK
Abstract:
Clin Pediatric Emerg Med

Educational Pediatric Pain Management Program for the Emergency Medical Technician-Paramedic (EMT-P)

Institution:
Medical College of Wisconsin (moved to University of Texas Southwestern Medical Center)
Funding Type:
Targeted Issue
State:
WI
Project Period:
09/01/2007- 08/31/2008
Total Award Amount:
$198,915.00
Principal Investigator:
Halim Hennes, MD
E-Mail:
grants@mcw.edu; hhennes@mcw.edu
Project Overview:
The effects of untreated pain in children are well documented in the literature. However, pain assessment (PA) and pain management (PM) remains inadequate, particularly in children. Education of emergency medical technicians-paramedics shows promise in improving PA and
PM in children. The goals of this project are to (1) implement a previously piloted prehospital educational program (PAMPPER) to increase prehospital PA and PM in children; (2) evaluate the effect of PAMPPER on EMT-P documentation of PA and PM practice, specifically the use of narcotic analgesia, in eligible children at each site; and (3) improve EMT-P knowledge and knowledge retention of PA and PM.

Keywords:
Pain Management, Provider Education

Impact of an Educational Module on Prehospital Pain Management in Children

Institution:
Medical College of Wisconsin
Funding Type:
Targeted Issue
State:
WI
Project Period:
03/01/2004-02/28/2007
Total Award Amount:
$199,388.00
Principal Investigator:
Halim Hennes, MD
E-Mail:
hhennes@mail.mcw.edu
Project Overview:
Children with musculoskeletal injuries or burns usually transported by ambulance. Despite the availability of analgesic agents and knowledge of adverse effects of untreated pain, most do not receive analgesia. Barriers to this disparity in care should be identified and remedied. The goals of this project are to (1) prospectively evaluate EMS providers' documentation of pain assessment and use of analgesic agents in children age 5-17 years with isolated extremity fractures or burns; (2) identify: provider, patient, and system barriers to administering analgesia to children age 5-17 years with isolated extremity fracture or burns; (3) develop, implement, and evaluate culturally competent educational modules for EMS providers to advance current knowledge while addressing cultural diversity and barriers in pediatric pain management; and (4) develop an assessment tool (pre and posttest) to evaluate EMS providers' knowledge in pediatric pain physiology, assessment, and management before and after the implementation of the Educational Modules.
Keywords:
Provider Education, Pain Management

Teaching Resource for Instructors in Prehospital Pediatrics for EMTs (TRIPP BLS)

New York University School of Medicine, Department of Pediatrics
Funding Type:
Targeted Issue
State:
NY
Project Period:
09/1/1993-08/31/1997
Total Award Amount:
$530,000.00
Principal Investigator:
George Foltin, MD/ Mike Tunik, MD/ Art Cooper, MD
E-Mail:
GFoltin@maimonidesmed.org

Project Overview:
The known problems of training prehospital personnel to care for children have been outlined in the Institute of Medicine report. Many of these problems are addressed in the new Emergency Medical Technician Basic (EMT-B): National Standard Curriculum. However, the leaders in emergency medical services (EMS) education recognize that EMS instructors do not currently have knowledge, clinical experience, or educational resources to adequately teach the entire new pediatric content. The goals of this project are to (1) create an educational resource that will enable emergency medical technician (EMT) instructors to effectively teach the pediatric portions of the new EMT-B curriculum; and (2) evaluate IRTPP effectiveness in enhancing the EMT instructors' ability to teach the new EMT-B curriculum.

Keywords:
Assessment, Airway Management, Transport, Quality Assessment/Indicators, Provider Education

Project Products
TRIPP Basic Life Support: Teaching Resource for Instructors in Prehospital Pediatrics

Year Published:
2010

Description:
The Second Edition of the Teaching Resource for Instructors in Prehospital Pediatrics (TRIPP) is a significant educational adjunct that empowers instructors of ambulance personnel to provide comprehensive training in the assessment and treatment of critically ill and injured children. This is not a course, nor is it a curriculum. It is an encyclopedic resource that is being used nationwide, and in over 60 countries around the world. This second edition of the Basic Life Support TRIPP incorporates the most recent guidelines of the American Heart Association, and includes several new chapters, including Cultural Competence and Family Centered Care, as well as an expanded version of Disaster Management. All versions of the TRIPP were developed with the input of national experts in pediatrics, emergency medicine, EMS and EMSC, as well as the target audience, the instructors themselves. They have our continuing gratitude and admiration.

Media Format:
PDF document

Availability:
Available Online

Availability Description:
http://cpem.med.nyu.edu/teaching-materials/tripp-bl
Targeted Issues Grants
EMS Education

Teaching Resource for Instructors in Prehospital Pediatrics for Paramedics (TRIPP ALS)

Institution:
New York University School of Medicine Department of Pediatrics
Funding Type:
Targeted Issue
State:
NY
Project Period:
09/01/1997-08/31/2002
Total Award Amount:
$750,000.00
Principal Investigator:
George Foltin, MD/Michael Tunik, MD
E-Mail:
GFoltin@maimonidesmed.org

Project Overview:
The goals of this project are to (1) create, distribute, and evaluate the "Teaching Resource for Instructors in Prehospital Pediatrics for Paramedics and Intermediate EMTs" (TRIPP-PIE); and (2) institute both a plan to update the TRIPP and the TRIPP-PIE on a regular basis and a system to nationally apprise EMT and paramedic instructors of significant changes in prehospital pediatric patient care strategies as they are developed.

Keywords:
Provider Education, Quality Assessment/Indicators, Transport, Airway Management, Assessment

Project Products
Title:
Paramedic TRIPP
Year Published:
2010
Description:
A natural and logical sequel to the national award-winning Teaching Resource for Instructors in Prehospital Pediatrics (TRIPP), the paramedic version expands the scope of prehospital practice from basic to advanced life support procedures for children. Neither a course nor a curriculum, the Paramedic TRIPP is an encyclopedic resource that empowers instructors of ambulance personnel to provide comprehensive training in the assessment and treatment of critically ill and injured children. It was developed with the input of national experts in pediatrics, emergency medicine, EMS and EMSC, as well as the target audience, the paramedic instructors themselves. The Paramedic TRIPP incorporates the most recent guidelines of the American Heart Association, covers the objectives of the U.S. Department of Transportation National Standard Curriculum for Paramedics, and is consistent with the recommendations outlined in Education of Out-of-Hospital Emergency Medical Personnel in Pediatrics: Report of a National Task Force.

Media Format:
PDF document
Availability:
Small Victims, Big Challenges: Refining Pediatric Disaster Triage Algorithms and Education in the Prehospital Setting

Institution: Yale University
Funding Type: Targeted Issue
State: CT
Project Period: 09/01/2010-08/31/2013
Total Award Amount: $852,415.00
Principal Investigator: Mark Cicero, MD
E-Mail: mark.cicero@yale.edu
Project Overview:
Although there are multiple existing strategies for the triage of children in disasters, there is no tested curriculum for teaching pediatric disaster triage, nor has there been much comparison of triage strategy efficacy. The goals of this project are to (1) develop a generalizable pediatric disaster triage curriculum for prehospital professionals; and (2) compare the efficacy of existing triage strategies.
Keywords: Triage, Provider Education, Evaluation Methods, Disasters, Children with Special Healthcare Needs, Adolescents

Michigan Pediatric Errors and Excellence Discovery with Simulation (MI-PE2DS)

Institution: Michigan State University Kalamazoo Center for Medical Studies
Funding Type: Targeted Issue
State: MI
Project Period: 09/01/2008-08/31/2012
Total Award Amount: $750,000.00
Principal Investigator:
Targeted Issues Grants
EMS Education

Richard Lammers, MD
E-Mail: lammers@kcms.msu.edu; zavitz@kcms.msu.edu; fales@kcms.msu.edu

Project Overview:
EMS personnel infrequently encounter critically ill or injured children. Clinical skills that are used infrequently will deteriorate. Recent studies of paramedics have demonstrated unacceptably high rates of errors in both prehospital care of children and in simulations of pediatric emergencies. Little is known about the underlying causes of technical, cognitive, or team-based pediatric EMS errors, or about combinations of factors that result in optimal treatment. Simulation provides a method of studying quality of care in rare clinical events. The goals of this project are to (1) develop and conduct a series of comprehensive, realistic pediatric clinical simulations for use by EMS personnel in a model mobile simulation laboratory for the purpose of discovering performance errors and identifying exemplary individual and team performance using root cause analysis methodology; and 2) compare errors detected in simulations with errors identified in similar case controls using a statewide electronic EMS information system.

Keywords:
Quality Assurance and Improvement, Provider Education

Manuscript
Article Title: Root Cause Analysis of Errors During a Simulated Prehospital Pediatric Cardiac Arrest
Year Published: 2011
Authors: Lammers RL, Byrwa M
Abstract:
Name of Journal: Simulation in Healthcare
PMID Number: 0

Article Title: Root Causes of Errors in a Simulated Prehospital Pediatric Emergency
Year Published: 2012
Authors: Lammers RL, Byrwa MJ, Fales WD
Abstract:
Name of Journal: Academic Emergency Medicine
PMID Number: 22251191

Manuscript
Article Title: Simulation-based assessment of paramedic pediatric resuscitation skills
Year Published: 2009
Authors:
Lammers RL, Byrwa MJ, Fales WD, Hale RA

Abstract:

Name of Journal:
Prehosp Emerg Care
PMID Number:
19499472

EMS Child Protection Education Project
Institution:
New York University School of Medicine
Funding Type:
Targeted Issue
State:
NY
Project Period:
09/01/1997-01/31/2002
Total Award Amount:
$0.00
Principal Investigator:
Michael Tunik, MD
E-Mail:
mt31@is6.nyu.edu

Project Overview:
The goals of this project are to (1) assess EMS providers’ knowledge of possible signs and symptoms of child abuse or neglect; (2) assess their self-efficacy and attitudes towards recognition and reporting; (3) assess their knowledge of Child Abuse and Neglect laws, regulations, and agency policies in their area of operation; (4) create an educational resource to address gaps in knowledge that is sensitive to culturally diverse groups and populations with special health care needs; and (5) build a coalition of experts in EMS, EMSC and Child Protection and create a collaboration among these groups that will exist beyond the project period.
Keywords:
Assessment, Child Abuse, Provider Education

Michigan’s First Simulation, Training, & Evaluation of Paramedics in Pediatrics

Institution:
Michigan State University, Kalamazoo Center for Medical Studies
Funding Type:
Targeted Issue
State:
MI
Project Period:
03/01/2005-02/29/2008
Total Award Amount:
Targeted Issues Grants
EMS Education

$599,985.00
Principal Investigator:
William Fales, MD
E-Mail:
fales@kcms.msu.edu
Project Overview:
Paramedics infrequently encounter seriously ill children. The use of new pediatric simulators may substitute for actual clinical experience. The marginal benefits of various types of patient simulators are unknown. Nor is the optimal frequency and duration of simulation-based instruction known. The goal of this project is to develop and validate a comprehensive series of pediatric evaluation and training simulations for improving the assessment, procedural, and decision-making skills of paramedics in the prehospital management of ill and injured infants and children. Objectives include: (1) develop and validate a simulation-based assessment model as a clinical surrogate for evaluating paramedic clinical performance in caring for ill and injured pediatric patients; (2) complete a baseline assessment of the clinical performance of similarly trained paramedics in providing pediatric care through the validated assessment model; (3) develop a comprehensive series of realistic, intense clinical simulations using various types of pediatric educational simulators, including an advanced high fidelity infant simulator; (4) measure the interval change in clinical performance in paramedics randomized to one of two types of recurring simulation-based training or one of two types of control groups; and (5) evaluate the impact of training with high and low fidelity infant patient simulators on paramedic clinical performance using the previously validated assessment model.
Keywords:
Provider Education, Simulation Training

Web-based Quality Improvement and Self Study Educational Program for Pediatric Emergency Care Providers

Institution:
Loyola University of Chicago
Funding Type:
Targeted Issue
State:
IL
Project Period:
03/01/2004-02/28/2007
Total Award Amount:
$598,777.00
Principal Investigator:
Mark Cichon, DO
E-Mail:
mcicho@lumc.edu
Project Overview:
EMSC grantees have developed a number of initiatives addressing emergency care and childhood injury prevention. However, quality improvement and benchmarking models have not
been widely applied in EMSC. The goal of this project is to develop a web-based quality improvement and self study educational program targeted to pediatric emergency care providers. This will be accomplished by (1) defining the data elements, chart review process, and educational components necessary to support four quality improvement and educational modules as defined by the project committee; (2) creating and implementing four web-based quality improvement and educational modules; and (3) assessing the data submitted for each targeted module, and evaluate changes in practice among providers after participation in the web-based quality improvement program.

Keywords:
Disasters, Provider Education, Quality Assessment/Indicators, Hospital Accreditation/Recognition

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**National EMS Child Protection Education Project**

Institution:
New York University, School of Medicine
Funding Type:
Targeted Issue
State:
NY
Project Period:
03/01/2000-02/28/2003
Total Award Amount:
$450,061.00
Principal Investigator:
George Foltin, MD
E-Mail:
GFoltin@maimonidesmed.org

Project Overview:
The goals of this project are to (1) assess EMS providers' knowledge of possible signs and symptoms of child abuse or neglect; (2) assess their self-efficacy and attitudes towards recognition and reporting; (3) assess their knowledge of proper documentation and reporting; (4) assess their knowledge of child abuse and neglect laws, regulations, and agency policies in their area of operation; (5) create an educational resource to address gaps in knowledge that is sensitive to culturally diverse groups and populations with special health care needs; and (6) build a coalition of experts in EMS, EMS for Children, and Child Protection and create a collaboration among these groups that will exist beyond the project period.

Keywords:
Provider Education, Children with Special Healthcare Needs, Child Abuse Dissemination

Manuscript
Article Title:
Knowledge and attitude assessment and education of prehospital personnel in child abuse and neglect
Year Published:
2002
Authors:
Markenson D, Foltin G, Tunik M, Cooper A, Matza-Haughton H, Olson L, Treiber M; Center for Pediatric Emergency Medicine; National Registry of Emergency Medical Technicians; National EMSC Data Resource Cen
Abstract:
Name of Journal:
Prehosp Emerg Care
PMID Number:
12109567

Project Products
Title:
Child Abuse & Neglect: A Continuing Education and Teaching Resource for the Prehospital Provider
Year Published:
2003
Description:
Three million cases of child abuse are reported in the US annually, making this issue a significant public health care concern. EMS providers can be the eyes and ears of the medical community, because they are in a unique position, often being the only individuals who have access to a patient's home. Their ability to assess and perceptively deal with this problem can have a tremendous impact on the morbidity and mortality of children. While there is a plethora of information for many levels of health care providers, there has been little useful information regarding the role of the EMS prehospital care provider in identification, reporting, intervening, documenting and preventing child maltreatment. The creators of the national award-winning Teaching Resource for Instructors in Prehospital Pediatrics have addressed this problem by creating Child Abuse and Neglect: A Continuing Education and Teaching Resource for the Prehospital Provider.
Media Format:
PDF document
Availability:
Available Online
Availability Description:
http://cpem.med.nyu.edu/teaching-materials/child-abuse-neglect

Children with Special Health Care Needs: A Model Program to Improve Prehospital and Emergency Care

Institution:
Trustees of Dartmouth College Children's National Medical Medicinep
Funding Type:
Targeted Issue
State:
DC
Project Period:  
03/01/2000-02/28/2003  
Total Award Amount:  
$450,000.00  
Principal Investigator:  
Terry Adirim, MD, MPH  
E-Mail:  
tadirim@hrsa.gov  

Project Overview:  
Children with special health care needs are a growing population that frequently requires the  
services of the emergency medical care system. However, there is very little training of  
prehospital providers in the care of these children, and many community hospitals do not have  
the expertise and resources to comfortably care for these patients. The goals of this project are to  
(1) create a comprehensive education program for all providers of emergency care to children  
with special health care needs; and (2) analyze CSHCN data from various sources.  
Keywords:  
Research, Provider Education, Children with Special Healthcare Needs

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**Pediatric Rapid Sequence Intubation Training CD-ROM**

Institution:  
Washington University School of Medicine  
Funding Type:  
Targeted Issue  
State:  
MO  
Project Period:  
03/01/2000-02/28/2002  
Total Award Amount:  
$298,736.00  
Principal Investigator:  
Katherine Gnauck, MD  
E-Mail:  
gnauck@kids.wustl.edu  

Project Overview:  
The goals of this project are to (1) contribute to the EMS for Children Five-Year Plan  
Objectives; (2) improve and expand pediatric emergency training programs for health  
professionals by developing an interactive CD-ROM educational resource which will consolidate  
and expand knowledge and improve performance and comfort for Pediatric RSI and related  
pediatric emergency airway management techniques; and (3) facilitate both acquisitions of initial  
knowledge and continuing education to maintain competence.  
Keywords:  
Airway Management, Provider Education  
Project Products  
Title:
Pediatric Rapid Sequence Intubation Training CD-ROM
Year Published:
2000
Description:
N/A
Media Format:
CD
Availability:
Not Available