Student Technology Fee

Grant Proposal

2010.010

2009-10

Tracy Brown

Approved Denied

Comment: _____

Diana Hamilton

Approved Denied

Comment: _____

Gary Gatch

Approved Denied

Comment: _____

Mike McDonald/James Leonards

Approved Denied

Comment: _____

Dale Martin

Approved Denied

Comment: _____

College of Nursing #2

Student Technology Fee
Grant Proposal Request Form
Fiscal Year 2009-10
Northwestern State University of Louisiana

FF 2010.010

ALL BLANKS MUST BE FILLED COMPLETELY

Prepared by: Susan Holland and Emily Horton For: College of Nursing

Department/Unit: Nursing College: Nursing Campus: Shreveport

Which NSTEP Goals/Objectives does this project meet? Goals 1, 3, 7 & 8 (detailed in Item #5)

Requested equipment will be located/installed/housed? Building: Warrington Rm. 233, Shreveport Campus.

Are department property policies and procedures in place for requested equipment? yes

Which individual will be responsible for property control of the requested equipment?
Mr. Gil Gilson, Property Inventory Control Officer on the Shreveport Campus.

Signature: _____ Date: 10/28/09

Grant Proposal Requested Amount:$ 76,413.25 Budget Attached (circle one): **YES**

Grant delivered to Student Technology located in Watson Library, Room 113. Date_____

The grant proposal must include all specifications, description, model number, quotation, cost, state contract number, and vendor for each item. If the proposal does not include all requested information, it will be retuned to requestor.

1. Describe target audience.
The target audience is comprised of clinical nursing students in each level of the curriculum for the Associate of Science in Nursing (ASN) and Bachelor of Science in Nursing (BSN) degree programs. The number of students that will utilize the requested equipment will approximate 500 per year.

2. Describe project/initiative for which you are requesting funds.
The purpose of the project is to enhance the students' pediatric nursing experiences through realistic presentations of simulated pediatric patients. The project proposes to purchase a high-end technology pediatric simulator for the Shreveport clinical simulation laboratory. The simulator is capable of exposing students to pediatric clinical situations and patient problems that are encountered in real patient environments. Students are required to analyze the presented clinical situation and make critical clinical decisions related to the nursing care required to meet the "patient's" needs. In addition, the simulators are capable of having clinical

procedures practiced on them, including starting IV's, listening to changing heart, breath and bowel sounds, and even having changes reflected in the chest movements, pupil reactions and pulse changes; competency development in caring for pediatric patients will be vastly enhanced. The simulators present very realistic patient care situations with which the student can deal in a controlled environment, without exposure of patients to unsafe conditions. The skills that students learn are critical to the practice of nursing in both programs. Pediatric patients are the most difficult of all patients with which to gain clinical competencies, particularly because the patients require nursing approaches and interventions that are far different from those of an adult. In addition, pediatric patients exhibit extreme fear of nursing personnel and that exacerbates the anxiety in a student who is lacking in confidence when required to perform a new procedure on a patient. The removal of the "anxious patient" from the simulated clinical procedure environment allows the student to practice and gain high levels of confidence prior to performing procedures on a child in the actual clinical environment. The simulator allows students to practice complex skills in a protective, effective learning environment. In addition, simulation provides a student with experiences they may not see during clinical due to low patient census, rarity of a particular disease, seasonal disease incidences or a census that does not provide patients with the many common pediatric problems. Simulations also provide an avenue through which students can learn to identify and address problems that may be created by family members within the actual patient and clinical environments. The addition of the Pediatric Simulator to the simulation laboratory will round out the simulator experiences available to nursing students including adult, maternal and infant; a Pediatric Simulator is currently not available in the simulation laboratory and this would be a tremendous additional learning tool for nursing students.

3. State measurable objectives that will be used to determine the impact/effectiveness of the project.

Following implementation of this project the students will be able to:

1. Demonstrate effective care of pediatric patients and their families in a structured learning environment.
2. Discuss evidenced based nursing care or best practice for pediatric patients and their families.
3. Incorporate cultural, developmental, and safety concepts into their care of pediatric clients and their families in a realistic patient environment.

4. Indicate how each project objective will be evaluated.

1. Student performance of decision making and clinical skills will be evaluated by faculty in the simulated learning environment, followed by evaluation of student performance in actual patient care environments. Performance criteria are established and made available to students.
2. Student performance is also evaluated by the use of pretest/post test data, written feedback, and verbal debriefing sessions.
3. Student performance in the simulated environment is observed by faculty and videoed. Following each performance session, faculty and students review the videos together to discuss both positive and negative performance experiences; these sessions are referred to as "debriefing sessions."

5. If funded, which NSTEP http://www.nsula.edu/nstep/NSTEP.pdf objective(s) will the funding of this project advance? How will funding of the project advance the University

and College/unit technology plan?

This project is designed to meet the following NSTEP objectives:
#1. To improve access to technology by students, faculty, and staff within the College of Nursing.
#3. To upgrade laboratories with modern technology.
#7. To encourage technology initiatives by faculty, staff, and students.
#8. To encourage innovation and research.

6. Provide a justification for funding of this project. Estimate the number of student that will be served per academic year and in what ways. Please indicate also any unique needs of the target group.

There are approximately 500 clinical students each semester that would be served with the addition of the pediatric simulator to the Clinical Simulations Laboratory in Shreveport. Currently there is not Pediatric Simulator available for learning experiences in the simulation laboratory. The simulator will provide students the opportunity to have hands on practice in providing evidence based nursing to the pediatric client via a controlled environment with expert faculty to guide the simulated learning experiences. The use of the simulator would encourage the students to utilize critical thinking, evidenced-based decision making and apply nursing knowledge from all levels of their nursing education in a safe environment. Simulations will allow the faculty to enhance their teaching by allowing the students to fail but use what could be a fatal medial error as a teaching moment in the simulations lab. Student competency development will be vastly enhanced prior to performing in the actual pediatric care environment.

7. List those individuals who will be responsible for the implementation of the project/initiative and indicate their demonstrated abilities to accomplish the objectives of the project.

Susan Spooner-Holland, MSN, APRN, GNP and Emily Horton, RN, MSN will be responsible for the implementation of the project. Both faculty have utilized simulation in their current courses and are familiar with the various aspects of implementing simulations into the curriculum. Ultimately, all pediatric faculty members in both nursing programs will receive instruction on the use of the simulator as a teaching-learning tool. Susan Spooner-Holland is a member of the Nursing Simulations Committee which oversees implementation of simulations into nursing education at the College of Nursing.

8. Describe any personnel (technical or otherwise) required to support the project/initiative.

No additional personnel will be required to support the project. Faculty will utilize their current time to implement use of the pediatric simulation into their clinical practice time and the College of Nursing. Callie Roberts, RN, NSU CON Lab Coordinator and approximately 15 other faculty members have expertise in the application and use of simulated situations as instructional tools. On-going faculty development in the integration of simulated experiences is an expectation within the College of Nursing.

9. Provide a schedule for implementation and evaluation.
Proposal Award: November 2009;
Funding available for Spring 2010 session;
Process order and bid opening: January 2010;
Bid award: February 2010;
Equipment shipment and installation: March-April 2010;
Faculty Training: Summer 2010;
Initiate utilization of simulator in nursing courses: Fall 2010

10. Estimate the expected life of hardware and software. Explain any anticipated equipment/software upgrades during the next five years.

With proper training and handling, the simulators will be serviceable between 5-8 years. The computerized components of the simulator will become obsolete within 5 years. The company will offer upgrades to the software and scenarios available for instructional use on a periodic basis.

11. Explain in detail a plan and policy that will be in place to ensure property security/controls for any equipment received through a Student Technology Fee. If you are requesting equipment that will be either/or checkout to students or moved within the department, you must provide a checkout/loan policy.

The Pediatric Simulator will be housed permanently in Room 233 of the Warrington Building on the Shreveport Campus. The room will be locked and secured with a keypad entry door. The keypad code is changed annually and as needed to assure security. Only authorized faculty and staff will have the security codes. Equipment will be charged before and after any use. Callie Roberts and individual faculty members will be responsible for overseeing the condition of the equipment after every use in the lab. Students will not be allowed access to the simulator without faculty supervision and no student will at any point ever be given the codes to the simulation labs.

The simulator will be kept in the assigned room; no check-out or movement of the simulator to other areas will be permitted.

Attach two (2) letters of support for the project from the following individuals: the requesting department's Dean, the appropriate Vice President (for non-academic units), or the SGA President from the requesting campus (for student requests).

Letters of Support from the following individuals are attached:

1. Dr. Norann Planchock, Dean, College of Nursing
2. Ms. Shirley Cashio, Director, Undergraduate Studies in Nursing
3. Ms. Megan Smith, President, Shreveport Student Government Association

Student Technology Fee Grant Proposal Checklist:

__X__ Is all information requested provided (items 1 – 11)?
__X__ Is a detailed budget attached?
__X__ Is all specifications, description, model number, quotation, cost, state contract number, and vendor provided for each item?
__X__ Are your two (2) letters of support attached?
__NA__ If equipment is to be checked-out/loaned, is your policy attached?

PROJECT BUDGET

ITEM	QUANTITY	PROJECTED COST
PERSONNEL:	None	$0.00
SUPPLIES:	None	0.00
EQUIPMENT: PidiaSIM ECS-Base Unit with in-room Air compressor, ASL Training Program for curriculum integration, 5 year system warranty, shipping and handling (See detailed quote attached)	1 7231	$76,413.25
TOTAL		**$76,413.25**

LETTERS OF SUPPORT

Northwestern State University

A Member of the University of Louisiana System

College of Nursing
1800 Line Avenue
Shreveport, Louisiana 71101-4653

Office of the Dean
Telephone (318) 677-3100
Fax (318) 677-3127
planchockn@nsula.edu

October 28, 2009

Student Technology Fee Grant Committee
Northwestern State University
Natchitoches, LA 71497

Committee Members:

It is my pleasure to submit this letter in support of the grant application from the members of the College of Nursing which has as its purpose to enhance the nursing simulation laboratory through the addition of a Pediatric Simulator. The addition of the pediatric simulator will compliment the adult and maternity simulators that we currently utilize in student instruction. Simulation exercises have become the standard in schools of nursing across the country and Northwestern's College of Nursing is posturing itself to become a leader in the integration of simulation technology in all nursing curricula. The outstanding benefits of simulated experiences are: 1) students gain experience in an environment where mistakes can be made and corrected (mistakes in real patient situations are many times life-threatening and cannot be corrected); 2) the "anxiety factor" associated with performing nursing skills on live patients is removed in the simulated environment—the student can practice, become confident, and develop competency before performing the skill in the actual environment; 3) faculty guidance is readily available for every skill performed with immediate feedback to the student; 4) the simulators provide experiences with patient conditions that may never be experienced during the students' clinical experiences; and 5) literature is demonstrating that student learning is tremendously enhanced through simulated experiences.

This grant is consistent with and supports the College of Nursing technology goals to continuously integrate the use of technology into the student learning experiences throughout the curricula. This equipment will increase tremendously the technology-supported clinical learning experiences for our students and will prepare them for practice in the contemporary nursing environment in which technology use has become the benchmark.

I urge you to act favorably on this application. Should you need additional information, please do not hesitate to contact me.

Sincerely,

Norann Y. Planchock

Norann Y. Planchock, PhD, APRN, FNP-BC
Dean and Professor
College of Nursing

NORTHWESTERN
State University

A Member of the University of Louisiana System

College of Nursing
1800 Line Avenue
Shreveport, LA 71101-4653
Telephone (318) 677-3100
Fax (318) 677-3127

Office of the Dean
Graduate Studies and Research in Nursing
Undergraduate Studies in Nursing
Non-Traditional Studies in Nursing
Radiologic Technology

October 28, 2009

To: Student Technology Fee Grant Funding Committee
Northwestern State University

From: Shirley Cashio, Director Undergraduate Studies in Nursing Program

Re: Request for funding of Pediatric Simulator

I am pleased to write this letter of support for this Pediatric Simulator for use on the Shreveport Campus. The Undergraduate programs are in the process of establishing a Simulation Lab and currently have in place two Meti Man simulators and a Noelle and Baby Hal simulators and now need to have a pediatric simulator. This simulator will be utilized by all students in both the BSN and ASN Programs during their pediatric clinical experiences each Fall and Spring semesters. Many times experiences with pediatric patients is limited in hospitals as these patients are treated on an outpatient basis and students may not see one in the hospital and this simulator will allow them to practice skills needed to care for these patients.

The addition of this simulator meets with the College of Nursing goals and objectives of enhancing student use of technology in order to be current with nursing education today and for nursing practice in the future.

Sincerely,

Shirley Cashio

Shirley Cashio, RN, MSN
Director Undergraduate Studies in Nursing

Shreveport Student Government Association
1800 Line Avenue
Shreveport, LA 71101

October 26, 2009

Student Technology Fee Grant Committee
Northwestern State University
Natchitoches, LA 71497

Committee Members,

On behalf of the Shreveport Student Government Association (SSGA), I am submitting this letter in support of the Student Technology Fee Grant Proposal from the College of Nursing. This purpose of this proposal is to purchase a Pediatric Simulator for the Nursing Simulation Laboratory. This simulator will be the first of its kind to be placed in use for student clinical instruction related to the care of pediatric patients. A very large number of ASN and BSN students will be served by the purchase of the Pediatric Simulator. Students will be able to practice in a safe, simulated environment prior to actual clinical experiences in the area hospitals. Practicing these skills will enable all students to develop competencies in caring for pediatric patients as they progress through the curriculum.

The practice of contemporary nursing is continuously being enhanced by the addition infusion of new technology. It is essential that we assist our students to be competent in performing the clinical skills required to provide care to pediatric patients. The approval of this grant and follow-up use of the simulator in the learning environment will also foster the students' abilities to be more successful on their licensing exam to become Registered Nurses upon graduation.

Thank you for the opportunity to address this subject and for your efforts on behalf of all the students at the University. If I can be of any assistance to the committee, please do not hesitate to call upon me.

Respectfully,

Megan Smith

Megan Smith
President
Shreveport Student Government Association

QUOTE FOR

PEDIATRIC SIMULATOR

METI®

Quote

Medical Education Technologies, Inc.

102 Cattleman Rd.
Sarasota FL 34232
United States
Tax ID # 22-3437089

Date	10/26/2009
Quote #	124993
Terms	
F.O.B. Sarasota	FOB Shipping Point
Expires	12/25/2009
Sales Manager:	Peacock, Matt
Phone Number	(941) 504-2176

Attention:

Northwestern State University of Lo...
1800 Line Ave
Shreveport LA 71101
United States

Ship To:

Northwestern State University of Lo...
1800 Line Ave
Shreveport LA 71101
United States

Item	Quantity	Description	Unit Price	Amount
PECS-200	1	PediaSIM ECS - Base Unit	45,360.00	45,360.00
AIR-003	1	In-Room Portable Air Compressor - 120 VAC / 60 Hz	4,640.00	4,640.00
SFW-013	1	ASL: Program for Nursing Curriculum Integration - PedSIM ECS	2,420.00	2,420.00
WAR-060	1	First Year ECS System Warranty Upgrade (to Premier)	2,060.00	2,060.00
WAR-055	4	Multi-Year ECS Premier System Warranty	6,365.00	25,460.00
Shipping & Handling	1	Shipping & Handling	495.00	495.00
5% Discount			-5.00%	-4,021.75

Total $76,413.25

DELIVERY: 90 days from date of Purchase Order within the Continental United States

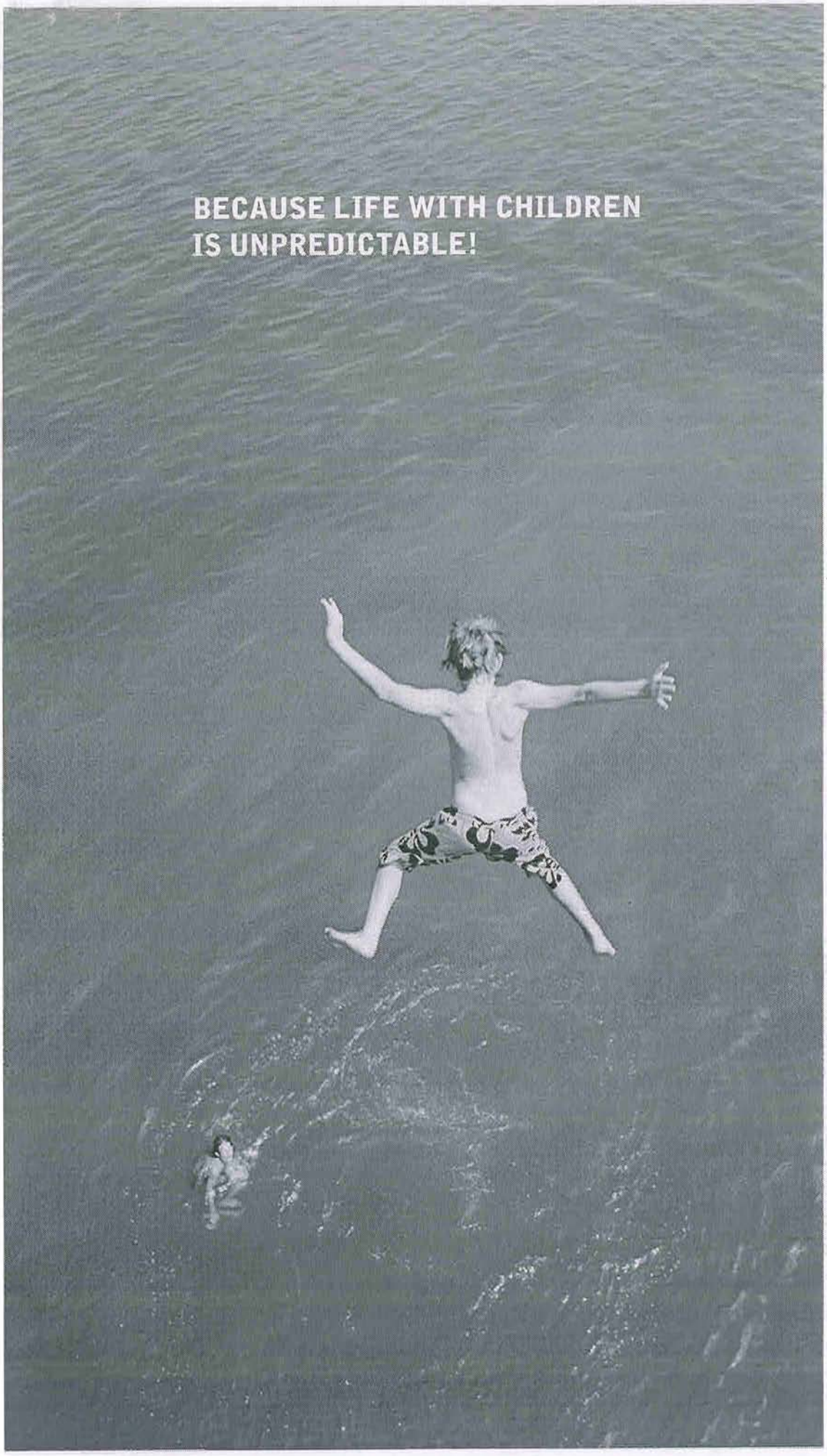
PEDIATRIC SIMULATOR PICTURES AND ADDITIONAL INFORMATION

FOR

COMMITTEE

PediaSIM®

BECAUSE LIFE WITH CHILDREN
IS UNPREDICTABLE!



METI®

PediaSIM CLINICAL FEATURES:

PEDIATRIC MANNEQUIN

A complete reproduction of an actual six-year-old child, the pediatric patient mannequin measures in at 48 inches (122 cm) tall, weighs 38 pounds (17.2 kg) and is fully operational in the supine, lateral and sitting positions.

HEAD ANATOMICAL FEATURES

The pediatric mannequin head offers tremendous realism with features such as:

- Articulating mandible that supports mask ventilation
- Retractable eyelids with blink settings and three manually adjusted pupil settings (including normal, pinpoint and blown)
- Reactive pupils (HPS)
- Exhalation of air and CO_2
- Phonation features
- Fluids such as tears, drool and ear secretions

AIRWAY TRAUMA

The PediaSIM provides airway trauma features that allow for the use of appropriate clinical supplies and equipment and include all of the following:

- Swollen Tongue
- Upper Airway Obstruction
- Laryngospasm
- Bronchial Occlusion
- Esophageal, Nasal and Oral Intubation
- Needle Cricothyrotomy
- End Tidal CO_2 Detection via Colormetric Device ($ETCO_2$)

AIRWAY FEATURES

The PediaSIM provides an anatomically realistic upper airway that includes all of the following features:

- Hard and Soft Palate
- Oropharynx
- Nasophyarynx
- Laryngopharynx
- Conical Trachea
- Carina

Additionallly, the mannequin provides critical airway landmarks such as a realistic Tongue, Epiglottis, Aryepiglottic Fold, Cuneiform Tubercle, Corniculate Tubercle, Laryngeal Inlet, Vocal Cords and Esophagus. These features provide for the following accurate respiratory therapeutic interventions:

- Oropharyngeal Intubation
- Nasopharyngeal Intubation
- Bag-Valve-Mask (BVM) Ventilation
- Laryngoscopic Procedures
- Endotracheal Tube Intubation

PHARMACOLOGY FEATURES

The PediaSIM mannequin has IV access sites (Jugular, Intraosseous, and Arm) and a specific pediatric drug library designed to isolate critical pharmacology learning objectives. Additionally, a peripheral IV may be started for fluid and drug administration.

THORAX AND PERIPHERY FEATURES

The pediatric mannequin was designed to support a wide range of clinical interventions. Each of the following features helps to isolate specific learning objectives:

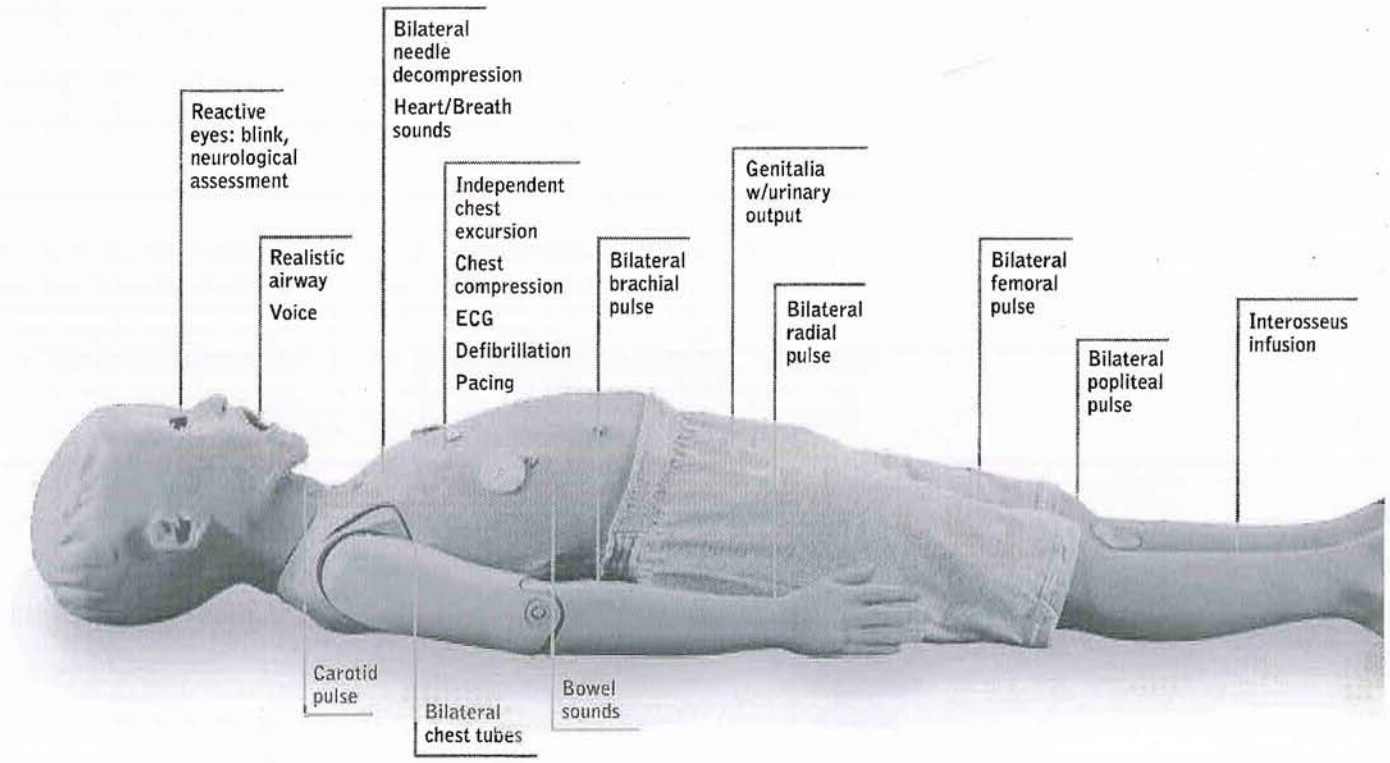
- Bilateral Chest Excursion
- Bilateral Breath Sounds—normal and abnormal—synchronized with breathing and ventilation
- Synchronized Heart Sounds (normal and abnormal)
- Chest Compressions
- 3 or 5 Lead ECG
- Transthoracic Pacing
- Synchronized Cardioversion
- Defibrillation
- Needle Decompression (bilateral)
- Chest Tube Insertion with drainage (bilateral)
- Auscultation of Karotkoff Sounds
- Bowel Sounds in all four quadrants
- Six Bilateral Pulses (carotid, brachial, radial, femoral, popliteal and pedal)

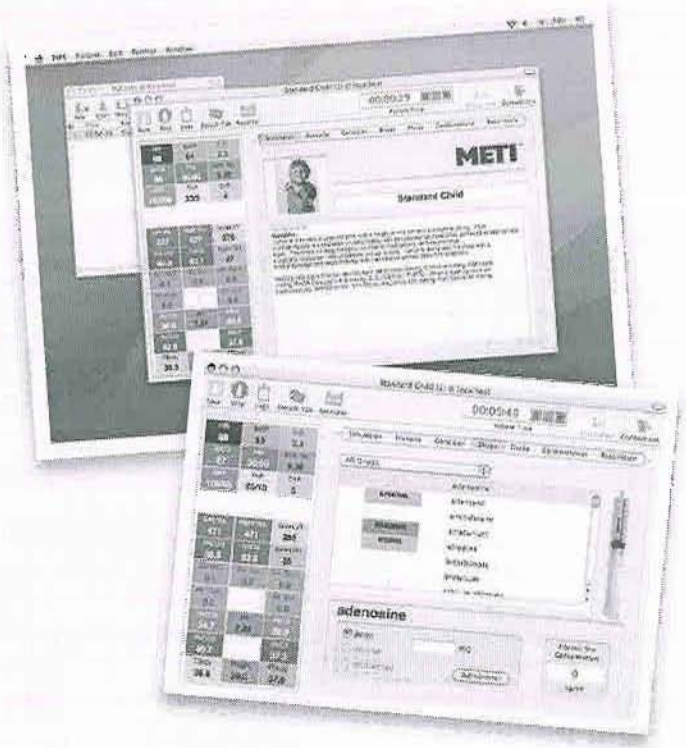
MONITORING FEATURES

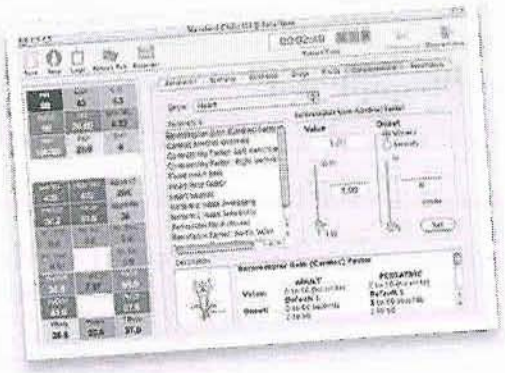
Patient monitoring features help learners with the all-important skill set of observing patient feedback. Included with the PediaSIM, the Waveform Display Monitor allows the following monitoring capabilities:

- ECG
- Pulse Oximetry
- Central Venous Pressure (CVP)
- Arterial Blood Pressure (ABP)
- Pulmonary Arterial Pressure (PAP)
- Thermodilution Cardiac Output
- Non-invasive Blood Pressure (NIBP)
- Blood, Body, Rectal and Axial Temperature
- Pulmonary Capillary Wedge Pressure

children are not just small adults







Bilateral pedal pulse

BECAUSE LIFE WITH CHILDREN IS UNPREDICTABLE!

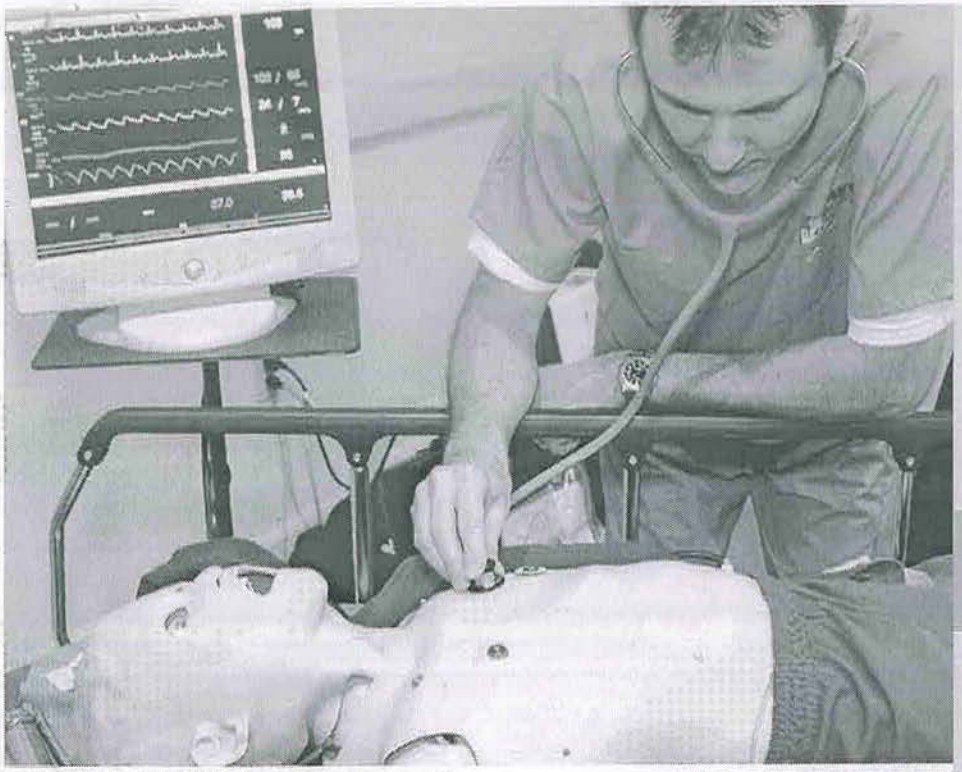
Critical incidents among pediatric patients tend to be rare, thus exposure to high-risk situations involving children during the course of a student's education is not guaranteed. Very often, learners get their first real exposure to the complexities and nuances of treating critically ill children in practice when the stakes are high and the dangers are real. METI recognizes the need for educational tools that isolate the minute but crucial differences in pediatric patients, providing the means to prepare learners to intervene – instinctively, quickly, consistently and appropriately – with the measures that have been proven to save lives.

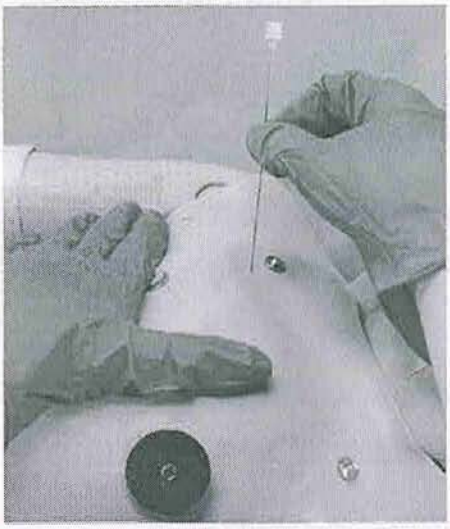
CHILDREN ARE NOT JUST SMALL ADULTS

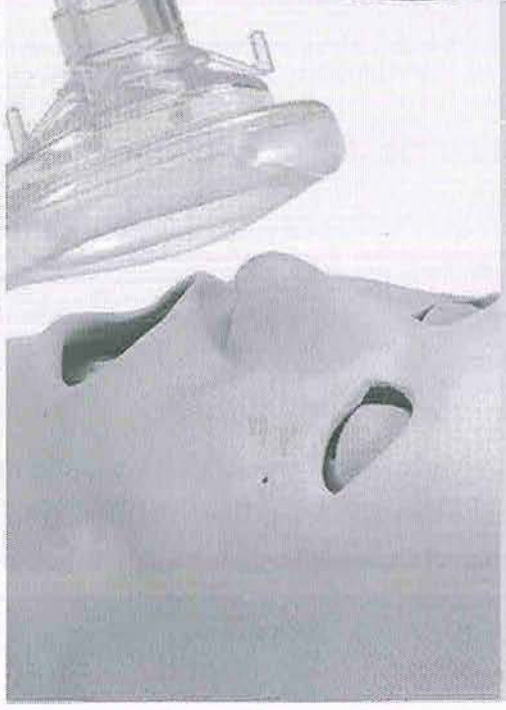
Based on the powerful METI HPS6™ Software, the PediaSIM incorporates highly developed pediatric patient models that generate realistic and automatic responses to clinical interventions and drug administrations. Critical distinctions in anatomy and physiology, reactions to drugs, types of injuries and underlying physical conditions must be considered when learning to care for children.

Unlike a task trainer, PediaSIM automatically responds to student interventions and represents a true-to-life response, specifically isolating critical breakdowns in skill acquisition and critical thinking. Additionally, Dylan, METI's new pediatric mannequin, is a complete re-creation of an actual six-year-old child measuring in at 48 inches (122 cm) tall and weighing 38 pounds (17.2 kg). Dylan is so realistic, he is fully operational in the supine, lateral and sitting positions.

By providing a realistic means to bridge the gap from didactic learning to clinical application, PediaSIM provides the best transition for learners to apply their knowledge of pediatric patient care in a safe, risk-free environment. And this high-fidelity learning tool allows instructors to objectively assess a learner's ability to respond to any number of scenarios while building the learner's confidence and competence.







YOUR CHOICE: HPS OR ECS?

PediaSIM is available on the HPS® platform, which is specifically designed for anesthesia, respiratory and critical care, or the ECS® platform, which is specifically designed when portability and economy are the priority. Either way, you receive the feature-rich technology you've come to expect from METI, the world's leading medical simulation and education company.

PEDIASIM HPS

The PediaSIM HPS comes complete with all of the following standard equipment or can be purchased with additional options.

STANDARD EQUIPMENT

Pediatric Mannequin
Computer and Control Rack
Instructor's Workstation Computer
Waveform Display Monitor
HPS6™ Software
Pediatric Patient Profile
Simulated Clinical Experiences (SCEs™)

OPTIONAL EQUIPMENT

Full-function Monitor Interface
Anesthesia Delivery System
Remote Control Laptop
Computer Bag
Mannequin Carrying Case
Trauma/Disaster Casualty Kit (TDCK™)

ALREADY OWN AN HPS? Then you can purchase the PediaSIM mannequin as an optional plug-and-play enhancement to your existing system!

PEDIASIM ECS

The PediaSIM ECS comes complete with all of the following standard equipment or can be purchased with additional options.

STANDARD EQUIPMENT

Pediatric Mannequin
Power and Communications Unit
Instructor's Workstation Computer
Waveform Display Monitor
HPS6™ Software
Pediatric Patient Profile
Simulated Clinical Experiences

OPTIONAL EQUIPMENT

Auxiliary Power Supply
Air Compressor
Remote Control Laptop
Computer Bag
Mannequin Carrying Case
Gas Accessory Kit
Trauma/Disaster Casualty Kit (TDCK)

METI®
Medical EducationTechnologies,In
c

Dina Dennis
Southeast Regional Sales Manager

6000 Fruitville Road
Sarasota, FL 34232
cell 941-504-5455
fax 941-377-5590
ddennis@meti.com
www.meti.com

December 2, 2009

Maxine Johnson
Northwestern State University of Louisiana
1800 Line Avenue
Shreveport, LA 71101

Dear Ms Johnson,

This is to confirm that Medical Education Technologies, Inc.™ (METI™) is the manufacturer and sole distributor in the United States of the METI PedECS. The METI PedECS product line is only available from METI. The METI PedECS product line along with the other patient simulators that METI manufactures are the only physiologically modeled simulators manufactured today.

I have also attached a separate justification list for the METI PedECS for your review.

If you should have any questions, please feel free to contact me at 941-504-2176.

Yours truly,

Matt Peacock
Gulf Coast Regional Sales Manager
Medical Education Technologies, Inc.