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Party	Plaintiff Cardinal Health 303, Inc.
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the IOM's *To Err is Human*. **David Bates, MD, MSc** is Chief, Division of General Medicine, at Brigham and Women's Hospital, Boston and is one of the most prolific researchers in medication safety. Dr. Bates has been a leader in helping hospitals understand the nature and frequency of medication errors as well as the impact of various technologies that help to address error detection and prevention. Dr. Bates and his colleagues have published extensively on virtually every medication safety technology, including CPOE, smart pumps and bar code medication administration. **Robert Wachter, MD** is Chief, Division of Hospital Medicine and Medical Service at UCSF Medical Center, San Francisco. Dr. Wachter is credited with founding the Hospitalist specialty, the fastest growing specialty in medicine. Dr. Wachter is a prolific writer, having published two books on medication safety, *Internal Bleeding: The Truth Behind America's Terrifying Epidemic of Medical Mistakes* and *Understanding Patient Safety*; both titles are must reads for anyone involved in medication safety. His blog, *Wachter's World*, is widely read and provides a unique and insightful look at various topics related to safety.

To access the digitized replay of this teleconference, go to:
United States: 800.475.6701
International: 320.365.3844
Access code: 958179

"Improving Heparin Safety - Clinical, Laboratory and Safety Issues"

Although unfractionated heparin has been used for many years, significant therapeutic and safety issues continue with its clinical use. The Joint Commission's National Patient Safety Goal 3E requires hospitals to improve the safety of anticoagulant use. This webcast will focus on best practices related to establishing and adjusting heparin doses, reducing variation in dispensing and administration, ensuring the accuracy of laboratory test results, and applying consistent and effective coagulation monitoring.

To access the program, go to:
[http://attewc.webex.com/attewc/onstage/tool/record/viewrecording1.php?](http://attewc.webex.com/attewc/onstage/tool/record/viewrecording1.php?EventID=470117807)
EventID=470117807

"Preparing Your Hospital for Compliance with Joint Commission National Patient Safety Goals"

The purpose of Joint Commission's National Patient Safety Goals (NPSGs) is to promote specific improvements in patient safety. The goals highlight problematic areas in health care and describe evidence and expert-based solutions to these problems. Joint Commission released in the February addition of Joint Commission Perspectives the top compliance issues for the first six months of 2007. Representatives from Cardinal Health's Center for Safety and Clinical Excellence will present these top non-compliant NPSGs, discuss surveyor's expectations for meeting the goals, and provide tips on how to successfully comply with the goals. A portion of the presentation will contain strategies for complying with the new NPSG 3E on reducing the likelihood of patient harm associated with the use of anticoagulant therapy that is scheduled for full implementation in hospitals in January 2009.

To access the program, go to:
[http://attewc.webex.com/attewc/onstage/tool/record/viewrecording1.php?](http://attewc.webex.com/attewc/onstage/tool/record/viewrecording1.php?EventID=470117807)
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"Preparing Your Hospital for Compliance with Joint Commission Medication Management Standards"

Learn more about what to expect with Medication Management standards during Joint Commission surveys in 2008, including high alert drugs, the most problematic standards, and expectations for medication management in the Emergency Department, Radiology and other procedural areas.

- > Summary
- > Patient Safety Quality Healthcare Article

To access the program, go to:
[http://attewc.webex.com/attewc/onstage/tool/record/viewrecording1.php?](http://attewc.webex.com/attewc/onstage/tool/record/viewrecording1.php?EventID=373182968)
EventID=373182968

Infusion pumps have been widely used to infuse a variety of fluids, medications, and blood components for over 40 years. Historically, nursing practice frequently involved calculation of doses using computers, monitors, and pharmacy-generated dosing charts, then converting the doses into mL/hr to program the pumps. With a 10,000-fold rate range and 100,000-fold volume range, programming errors could have tragic outcomes, with 10 and 100 times under and overdoses reported. These types of errors were labeled "Death by Decimal" in a widely circulated newspaper series on medication errors.

In the early 2000s, IV pumps became available with dose error reduction systems (DERS), complete with comprehensive libraries, standard concentrations, and dose limits. These "Smart" IV pumps have quickly become a standard as an important element of comprehensive medication safety programs. However, as with all new safety technologies such as CPOE and bar code medication administration, the safety systems in Smart pumps must be used to provide the safety. This webcast will focus on compliance with the use of the DERS. Our faculty will discuss the types of errors that can be prevented, how they addressed the cultural issues, and what they have done to measure and maintain high compliance with using Smart pumps.

> Summary

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EventID=372794196

Best Practices to Reduce Catheter Related Blood Stream Infections

Catheter-related blood stream infections (BSI) are a significant source of morbidity and mortality associated with a variety of devices used to access the vascular system. Meticulous aseptic technique is both required and effective to prevent BSI. Our faculty will share their observations, best practices, and outcome data as they discuss this important topic.

> Summary

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[http://attewc.webex.com/attewc/onstage/tool/record/viewrecording1.php?](http://attewc.webex.com/attewc/onstage/tool/record/viewrecording1.php?EventID=372167606)
EventID=372167606

The Safety Benefits of Continuous Patient Monitoring During PCA

Safe and effective pain management is fundamental in the care of hospitalized patients. The use of patient-controlled analgesia (PCA) is common in clinical practice, but it is not without associated hazards and risks. Despite significant advancements in pain management clinical practice and emerging technologies, oversedation and respiratory depression represent the most significant potential for harm associated with PCA deliveries.

In October, 2006 the Anesthesia Patient Safety Foundation hosted a conference on PCA Safety, and shortly thereafter the APSF released a statement encouraging hospitals to consider continuous monitoring of patients receiving PCA and neuraxial narcotics. Last month the APSF Winter Newsletter's lead article was a synopsis of the conference.

In October, 2006, Main Line Health in Philadelphia implemented PCA therapy with continuous capnography (end tidal CO₂) monitoring. Our faculty will discuss the rationale for continuous respiratory monitoring. In addition, we will hear from the nurses how this new technology was implemented and the lessons learned in applying a new physiological monitor in the med/surg care areas. The role of the respiratory therapist as a new member of the PCA team will also be discussed.

Experience with this monitoring technology has demonstrated immediate improvement in patient care by adding a safety net for critical patient risk factors unprotected by programming safety, such as undiagnosed clinical conditions and PCA by proxy. Using patient case studies, this presentation will provide insight into how continuous monitoring has helped reduced the risk of harm with over-sedation and respiratory depression.

To access the program, go to:
[http://attewc.webex.com/attewc/onstage/tool/record/viewrecording1.php?](http://attewc.webex.com/attewc/onstage/tool/record/viewrecording1.php?EventID=371436613)
EventID=371436613

Hospital

Nursing and pharmacy continuing education credits are available for this program. Please print the form, complete the post test and evaluation and fax to 850.893.1845.

Last Fall, a tragic mix-up of heparin vials at Methodist Hospital in Indianapolis resulted in the deaths of 3 NICU patients. Vials of heparin, 10,000 units/mL were inadvertently placed in the drug cabinets in place of heparin, 10 units/mL. The 1000-times more concentrated heparin was used to flush IV catheters.

Jim Eskew, RPh, MBA, Director of Pharmacy for Clarian Health Partners will discuss how the error occurred, the hospital's action plan (long term) to address the error, management and support of staff, and lessons learned in response to the error. Valerie Shahriari, JD, RN, Director of Risk Management and Patient Safety will discuss the investigation, analysis of the error, and communications with the families, press, and the public. She will also discuss dealing with the various regulatory agencies. Deb Ward, RN, BSN, Manager of the Methodist NICU will review the impact of the errors on the nursing staff involved in the errors as well as the entire NICU staff. Deb will review how Clarian supported the staff, communicated to parents of other NICU patients, and assisted the 6 nurses directly involved with the errors.

> Slides

To access the program, go to:

<http://attewc.webex.com/attewc/onstage/framesets/viewrecording1.php?EventID=371098772>

Continuing education credit form available here: [Nursing | Pharmacy](#)

Compiling an Antibiogram in 2007: New Guidelines and Helpful Tips (Microscan users)

Hospitals routinely prepare antibiograms to capture antibiotic resistance and susceptibility trends in their institutions. The Clinical and Laboratory Standards Institute (CLSI) provides guidelines for the analysis and presentation of cumulative antimicrobial susceptibility test data through a document known as the M39A2. This webcast reviews these guidelines in detail, discusses the changes between prior versions and the current standards, and reviews the report functions available through the automated testing system (Microscan) to capture this data. In addition, suggestions are provided on how to effectively organize this information to communicate to health care professionals and to improve patient care.

Archival slides

Compiling an Antibiogram in 2007: New Guidelines and Helpful Tips (Vitek users)

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Archival slides

Changing Practices: Pharmacy Led Anemia and Blood Management

Transfusion medicine is an area that is rapidly emerging as opportunity to improve patient care. Reasons for conservation include increased transfusion risks, emerging pathogens, questionable efficacy and oxygen transporting ability, supply issues as well as increasing cost and decreasing reimbursement. The change is being driven by health care professionals, hospital administration, and increasing public demands for transfusion alternatives.

In 2005 Swedish Medical Center established the Blood Management Department within the Pharmacy. The department staff consists of a Medical Director, Nurse Manager, Pharmacist, Patient Care Coordinator and an Administrative Assistant. New information clearly indicates that blood conservation strategies offer patients a higher standard of care.

At Swedish, blood conservation strategies have lead to a 30% reduction in blood utilization across the entire cardiovascular surgery service. In orthopedic, conservation has lead to a 20% reduction in RBC use in elective surgeries, and an overall reduction in RBC use across all three hospital campuses.

To access the program, go to:

<http://attewc.webex.com/attewc/onstage/framesets/viewrecording1.php?EventID=370583162>

IOM Report - Preventing Medication Errors - Perspectives from Pharmacy, Nursing and Medicine

The Institute of Medicine (IOM) was established in 1970 by the National Academy of Sciences to examine policy matters pertaining to the health of the public. In 2000, the IOM report raised awareness about medical errors and accelerated existing efforts to prevent such errors. Their publication of *To Err is Human* was a tipping point for patient safety. The latest report, released in draft form last month, makes clear that with regard to medication errors, there is still a long way to go. The current medication use process, which encompasses prescribing, dispensing, administering and monitoring, is characterized by many serious problems and issues that threaten both the safety and positive outcomes of the process. The new report found that medication mistakes injure more than 1.5 million patients each year and that hospitalized patients are at risk for at least one medication error per patient day.

The IOM process, its recent reports on quality and safety, and how this report fits in the series will be presented. Key recommendations of the "Preventing Medication Errors" report will be outlined along with perspectives from an interdisciplinary team of experts outlining suggestions and recommendations to help reduce medication errors.

To access the program, go to:

<https://attewc.webex.com/attewc/onstage/framesets/viewrecording1.php?EventID=370438790>

Improving Patient Safety: An Interdisciplinary Approach to Reducing Medication Errors

McLeod Regional Medical Center has been singled out by the Institute for Healthcare Improvement (IHI) for the work it has done in several areas under IHI's Pursuing Perfection program. Nursing Retention, Leadership Patient Safety Rounds and Medication Safety have all been featured by IHI. McLeod Regional will also be featured in an upcoming PBS special scheduled for this September. This webcast will review their approach to medication safety as it highlights the complexities and challenges in designing a safe medication delivery system, from changing culture to implementing technology, from tracking results to successfully implementing an effective drug reconciliation program.

Using a case study approach, the faculty will review the hospital's successes in implementing and measuring a comprehensive medication system. Among its successful strategies are the use of an automated drug dispensing system, with the phased-in addition of bar coding, electronic medication administration records, deployment of pharmacists to the nursing floors, drug reconciliation and a universal medication form. This approach yielded dramatic reductions in rate of harm and improved charge capture when drugs are administered.

The webcast has ended, please view our archival slides

The Override Challenge- The Impact on Pharmacy and Nursing

According to JCAHO, "Before dispensing, removal from floor stock or removal from an automated storage and distribution device, a pharmacist reviews all prescription or medication orders unless a licenced independent practitioner controls the ordering, preparation and administration of the medication, or in urgent situations when the resulting delay would harm the patient, including situations in which the patient experiences a sudden change in clinical status (for example, new onset of nausea.)" The challenge for compliance with this and other standards, falls to facility leadership. Hear from OHSU and learn more about their process and procedures to maintain well less than 2% use of overrides and compliance with this issue.

The webcast has ended, please view our archival slides

"Epidemiology, Outcomes and Management of Health - Care - Associated Pneumonia"

Patients who acquire pneumonia in a non-hospital setting have been traditionally grouped as community acquired pneumonia (CAP). Accumulating evidence suggests that health-care-associated infections are distinct from those that are truly community acquired and are associated with greater clinical and operational burden. Recently, the American Thoracic Society published "Guidelines for the Management of Adults with Hospital-acquired, Ventilator-associated, and Healthcare-associated Pneumonia". This program will discuss which patients admitted to the hospital for pneumonia treatment are at greatest risk for poor outcomes by distinguishing true community acquired pneumonia from health-care associated pneumonia. This program will also highlight the clinical and operational burden of healthcare associated pneumonia (HCAP) compared to other pneumonias and differentiate treatment recommendations of HCAP from community acquired pneumonia (CAP).

The webcast has ended, please view our archival slides

"Implementing Systems for Detection and Prevention of Drug Diversion"

Diversion of drugs by healthcare workers poses a considerable challenge for hospitals. Diversion can lead to significant financial losses as well as potential impact to patients. In addition accrediting and regulating agencies require Pharmacy Departments maintain accountability, security and control of controlled substances and that any movement or diversion of drugs is identified in a timely manner. Failure to do so can result in significant accreditation issues -- and even fines. Vigilance on the part of monitoring systems to detect and intervene into potential problem areas. Two such examples will be presented in this webcast.

The webcast has ended, please view our archival slides

"Pandemic Flu Preparedness: Putting Guidelines into Practice "

This webcast will educate hospitals and healthcare providers on pandemic influenza preparedness. Speakers will review the epidemiology of influenza outbreaks (including avian influenza), discuss therapy opinions and review the recently published federal guidelines that address pandemic influenza preparedness. Attendees will also learn how facilities can translate the official guidelines onto practice.

The webcast has ended, please view our archival slides

"The Incidence and Nature of Adverse Events and Serious Medical Errors in Intensive Care"

Drawing from their article on this topic published this month in Critical Care Medicine, David Bates, MD and Jeffrey Rothschild, MD will discuss the study methodology, their findings, and their recommendations to address the high incidence of potential harm in intensive care settings.

The webcast has ended, please view our archival slides

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This program is approved for 2.0 hours of nursing credit

> Prevention of Retained Sponges and Towels

Program information
This program is approved for 2.0 hours of nursing credit

> To Bleed or Not to Bleed

Program information
This program is approved for 1.25 hours of nursing & pharmacy credits

> Appropriate Glove Usage: Recommended Practices and Guidelines

Request the Appropriate Glove Usage self-study guide
This program is approved for 2.0 hours of nursing & surgical technologist credits

> Surgical Fires; Keys to Awareness and Prevention

Request the Surgical Fire self-study guide
This program is approved for 2.0 hours of nursing credit

> The Care and Handling of Surgical Instruments

Request the Surgical Instruments self-study guide
This program is approved for 2.0 hours of nursing

> Are Your "Sterilized" Instruments Promoting Healthcare-Acquired Infections?

Request the Healthcare-Acquired Infections self-study guide
This program is approved for 2.0 hours of nursing

> Ensuring Patient Safety During Laparoscopic Procedures

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This program is approved for 2.0 hours of nursing

Help Prevent CRBSIs

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Medication safety and education

Below are some of the resources the Center for Safety and Clinical Excellence has compiled to help our partners understand, assess and prevent medication errors and focus on clinical improvement.

Recommended reading
Excellent sources we recommend for more information on medication errors and safety.

Medication error management

Understanding errors and how to prevent them.

Medication safety organization links
Other organizations dedicated to medication safety.

Statistics
Basic information on medication errors and prevention today.

Additional reading materials:

- Improving Heparin Safety (PDF)
- Reducing Variability in High-Risk IV Use (PDF)
- CNO Leadership Forum (PDF)
- Reducing Complexity- Optimizing the Med Use Process (PDF)
- IV Barcode Strategy (PDF)
- Smart Pumps (PDF)
- BSI - Zero Tolerance (PDF)
- Blood Transfusion - A Safer Approach (PDF)
- Averting Highest Risk Errors - Part 1 (PDF)
- Averting Highest Risk Errors - Part 2 (PDF)
- Preventing Medication Errors: The IOM Report - AJHP Supplement

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Medication Safety Pyramid

The pinnacle of medication safety

Getting started

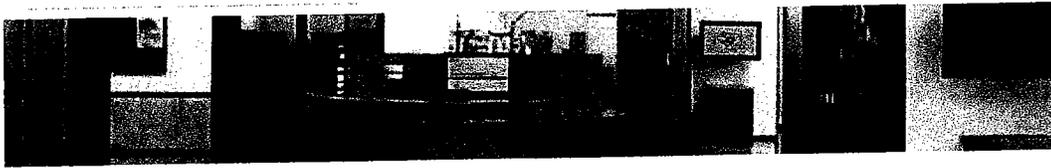
The Medication Safety Pyramid provides resources, processes and procedures to hospitals to help improve medication use safety and meet Joint Commission requirements.

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San Diego Patient Safety Taskforce Projects

The San Diego Patient Safety Taskforce is a grass roots effort with active members who have been working together since 2005. Following the sun-setting of the San Diego Center for Patient Safety, a small group of dedicated physicians, pharmacists, and nurses decided to carry on the work of the Center and cooperate as representatives from competing hospitals to address patient safety issues. The taskforce has developed two tool kits – PCA Guidelines for Care and Safe Administration of High-Risk IV Medications.

The taskforce recently received a grant from the Cardinal Health Foundation to support future work. Current efforts focus on "Improving the Safety and Effectiveness of ICU Sedation" and development of an annual patient safety awards luncheon.

Current Project: Improving the Safety and Effectiveness of ICU Sedation

Improving the safety and effectiveness of ICU sedation is key to reducing ICU length of stay, reducing complications, and decreasing the overall cost of patient care. With a national focus on preventing hospital-acquired infections, reducing the stay in the ICU reduces the potential that patients will develop infections. The ICU patient is at high risk for developing a ventilator-associated pneumonia, and deep ICU sedation can prolong the use of artificial ventilation. In addition, the risk of developing a catheter-related central line infection increases as the length of stay in the ICU increases. The deeper the level of ICU sedation, the more difficulty clinicians have weaning patients from ventilators and developing a central line infection. Central line infections are difficult to treat, and the lack of an intravenous access creates many other potential treatment complications. In addition, deep sedation is associated with cardiac toxicity and other complications. The taskforce believes this third community initiative is unique, much needed, and transferable to other communities and hospital systems.

The ICU Sedation program will provide guidelines for the County of San Diego, involve approximately fifteen hospitals, and will potentially cover 3,000,000 patients. Additionally, the proposed project will serve as a model for other communities, eventually impacting a significantly larger patient population.

Recent Publications

Tool Kit: Patient-Controlled Analgesia (PCA) Guidelines of Care (December 2008)
Managing post-operative pain has been a focus of the Joint Commission, has been associated with some of the highest incidence of adverse drug reactions, and is associated with a wide variation in prescribing, administration, and monitoring. This tool kit was the result of almost two years of meetings and additional work by the leaders of the task force.

Tool Kit: Safe Administration of High-Risk IV Medications (November 2006)
Standardization of intravenous (IV) infusion medication concentrations and dosage units with and across hospitals in San Diego County was identified as a significant opportunity to reduce morbidity and mortality due to preventable, high-risk IV-related adverse drug events. The 2006 Institute of Medicine (IOM) report, "Preventing Medication Errors," urges hospitals to take action to reduce the potential for errors. This toolkit provides the results of the work by the IV Safety Taskforce, along with tools and information to assist other acute care organizations in implementing this standard approach.

Hospital Pharmacy - Reduction in Variation of Intravenous Drug Administration in Seventeen San Diego Hospitals with Standardized Drug Concentrations and Dosage Units

Request a copy of the article
http://www.cardinalhealth.com/clinicalcenter/ps_taskforce/index.asp



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B

Solutions

VOL. 5 FALL 2001

ALARIS AEP™ Monitor offers Rapid Response to Ease Patient and Anesthesiologist Concerns

IN SPITE OF THE CONTINUED EVOLUTION of anesthesia techniques over the years, under- and over-sedation remain critical issues to the entire medical community's commitment to quality patient care. This fact is borne out by the estimated 35,000 cases of surgical awareness due to under-sedation that occur in America each year, and by the increased costs that are so evident in cases of over-sedation.

One solution to this need is providing anesthesiologists with the ability to electronically monitor effectiveness of the drugs they administer. The first such device came in 1996 with the introduction of Bispectral Index (BIS) monitoring by Aspect Medical Systems. This technology extracts a portion of the EEG signal to determine the level of consciousness. One of the limitations of this technology is the fact that it is a spontaneous signal with no direct relationship to a stimulus. Additionally, due to the method of signal processing, the BIS monitors may produce up to a 30-second delay in reporting changes in consciousness. Considering the anesthesiologist's need for real-time information, such a delay may be a serious disadvantage.

We believe that response time should be much shorter. And it should come as the result of an active stimulus with advanced signal processing. This summer, the FDA granted market clearance for the ALARIS AEP™ Monitor which will be available in 2002. The ALARIS AEP™ Monitor is the first and only monitor of its kind available for use on patients during anesthesia and sedation. By actively monitoring the patient's response to sound stimulus, a direct link has been created that communicates changes in consciousness within two to six seconds. This enables near real-time assessment of the patient.

What sets the ALARIS AEP™ Monitor apart from the BIS monitor is its ability to measure the brain's auditory nervous

system response to acoustic "clicks" heard through a pair of reusable earphones. The "click" rate of the ALARIS AEP™ Monitor is nine times per second. Within two to six seconds, the monitor analyzes the portion of the EEG reading related to the auditory evoked response or potential (AER or AEP) using a proprietary algorithm known as "ARX". Based on this information, the monitor calculates an ARX-Index (AAI) which correlates with the patient's level of consciousness. This is an important distinction because the auditory sense is commonly thought to be the last to disappear during anesthesia and provides the anesthesiologist with the most responsive means of determining a patient's consciousness level. Also, since many of the episodes of surgical awareness involve auditory recall during the procedure, a monitoring technique that assesses the auditory nervous system may be particularly useful.

The need for such fast and active monitoring capabilities is critical for those procedures where the maintenance of minimal levels of anesthesia is important. This fact makes the ALARIS AEP™ Monitor ideal for a variety of hospital areas beyond the operating room including intensive care units and clinical research. Patients – especially those who have had previous consciousness episodes during surgery – will likely respond positively knowing that a system which actively determines changes in consciousness will be used in their next procedure.

We firmly believe that this breakthrough in consciousness monitoring will help our customers establish ever-higher levels of patient care. The ALARIS AEP™ Monitor is another example of how ALARIS Medical Systems has become the leader in providing innovative safety solutions in infusion, monitoring and documentation that easily integrate into current systems, ensuring industry-leading safety technology solutions are available to caregivers, their institutions and their patients.

ALARIS MEDICAL SYSTEMS



A MESSAGE FROM
The President

ALARIS Solutions Article on Operational Excellence



"DID YOU KNOW that at ALARIS Medical Systems we align our goals with our customers' goals not only on paper, through objectives, but compensation to our employees? This year for the first time we tied a portion of our compensation success to achieving customer satisfaction through "Operational Excellence". This is one of our "Three Key Results" company wide focusing on partnering with our customers.

What does this mean for you, our customer? Monthly we trend how we are doing at "Timely Order Fulfillment". This measure helps us assure that we have the product you order at all times, and more importantly that we ship this product to you on time per your request. Also we trend our "Product Reliability" with the goal of continuously improving our product to assure the highest quality standards and uptime capabilities. We measure our state of "Sustained Compliance" with FDA, other governmental regulatory and customer requirements. Our last measured component of Operational Excellence is "Timely New Product Development". At ALARIS Medical Systems, we have made a commitment to product innovation and safety and we measure our success to goal on introducing products timely. Part of that new product goal is gated by complete product testing, so if we are not confident in the product's performance it will not release, assuring your satisfaction and safety.

These measurements have continuously improved year-to-date and are entrenched as part of our culture. We succeed when we have succeeded for you! We hope this shows that ALARIS Medical Systems is serious about achieving very satisfied customers and that we continue as an essential partner for success."

Dave Schlotterbeck
President and CEO

Creating partnerships for strategic solutions to medication errors

ALARIS Medical Systems is completing an ambitious national research study to understand the strategic approach hospitals are adopting to deal with medication errors in an effort to create solutions for what has become a top agenda item in clinical corridors across the United States. "For the past three months we have had our research team visiting hospital campuses across the country to gain perspective from the CEO's office, pharmacy, nursing, biomedical, and purchasing departments on the issue", said Divisional Vice President of Marketing, Pat Moran. "We wanted to see the issues through the eyes of those faced with the tremendous challenge of patient care on a daily basis."

No Easy Answers

While news stories might suggest prevention of medication error is simply a matter of giving the right pill to the right patient, there are no easy answers as hospitals face increasing patient acuity, generations of new medications, decreasing staff size, and ever dwindling capital budgets. "Medical device manufacturers like ALARIS have to hit all of the bases in a balanced approach to the issue," Moran continued.

Major Findings

Among top findings of the study the ALARIS Medical Systems research team reported:

- Medication errors are only one part of a broader patient safety effort being followed by hospitals. While a key topic in many board rooms, care givers are seeking to make process and technology work in concert to create an overall safer environment;
- Hospitals are creating new "blame free" cultures to encourage reporting of med errors and near misses in order to allow for root cause analysis leading to error. Process is being evaluated throughout the clinical pathway of medication ordering, dispensing, and administration;
- Technology based solutions are being evaluated and tried at an ever increasing rate as an extension of safety measures;
- Solutions lie in multi-disciplinary approaches that traverse traditional role and responsibilities. Physician, nurse, and pharmacist must have a common focal point and act as one in providing medication to the right patient at the right time. Administrators must understand the level of resources to make that happen; and
- Standardization and simplicity must replace complexity and unit specific answers to reduce errors.

PRODUCT Spotlight

Introducing the VITAL•CHECK® 4500 Series

The changing patterns of health care practices demand vital signs monitors that offer the latest technology while remaining accurate, reliable and easy to use in any care environment. To meet these needs, ALARIS Medical Systems launched the VITAL•CHECK® 4500 Series combining proven technology in NIBP and temperature measurements into one small, powerful vital signs monitor.

The new VITAL•CHECK® 4500 monitor offers adult and neonatal operating modes with manual or automatic measurement cycles available in eleven intervals easily selected by the caregiver. The 4500 also provides up to 24 hours of trending information that can be downloaded to a computer or easily transferred onto hard



The 4500 provides up to 24 hours of trending information that can be downloaded to a computer or easily transferred onto hard copy through an optional built-in printer.

copy through an optional built-in printer.

With its patented ComfortCuff technology, the VITAL•CHECK® 4500 monitor offers the leading edge in patient comfort by measuring NIBP on inflation giving rapid yet highly accurate results. The 4500 also utilizes well known ALARIS® / IVAC® thermometer technology for fast, accurate readings in two temperature modes, "predictive" and "monitoring".

The use of ALARIS® / IVAC® thermometry also allows for disposable standardization opportunities for those facilities currently using TEMP•PLUS® II and Turbo★Temp™ thermometers.

Weighing only 4.4 pounds, the 4500 series becomes readily transportable with our durable roll stand and accessory basket. A full line of accessories is available for the 4500, including over fifteen sizes of reusable and

disposable cuffs from infant to large adult and thigh cuffs. With up-to-date technology that's accurate, reliable and easy to use, the VITAL•CHECK® 4500 series monitor is the natural choice for vital signs monitoring in any healthcare setting.

For more information on our VITAL•CHECK® 4500 series monitor, visit www.alarismed.com or phone 1-800-523-4208.

ALARIS Solutions Newsletter Team

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Clinical CORNER

Signature Edition® Infusion Systems - Advanced Features

Signature Edition® Infusion Systems provide clinicians with several advanced programming options that can help enhance safety and efficiency in patient care.

The **Loading Dose** feature allows the clinician to begin an infusion with an initial rate and volume, then automatically follow with a primary rate and volume from the same solution container. (Note: This is a little different from secondary delivery or "piggyback", which is intended for delivery from a separate solution container.) The Loading Dose feature allows the instrument to keep track of the volume infused (VI) and volume to be infused (VTBI) in the primary solution container. It is often used to give fluid challenges or to provide loading doses for infusions such as Heparin or Aminophylline without requiring the clinician to return to reprogram when the dose is complete.

The **Multi-Step** feature provides for a sequence of one to nine delivery profiles. The user can program each one with a specific rate and volume or volume and duration. The instrument will deliver the steps, one after another. When the final step is completed, the instrument will deliver a KVO rate. This feature might be used to deliver TPN or any drug that might require incremental increases such as IVIG.

The **Multi-Dose** feature allows the clinician to deliver multiple doses of fluid or medication from the same fluid container at specified intervals. This feature also provides a delayed start option, and a call-back option at completion of each dose.

The **Dose Rate Calculator** simplifies programming of continuous drug infusions based on parameters such as drug dosage, patient weight, and drug concentration. The user may select from a library of 34 drug names, or may choose "Drug?" to program drugs not available on the list. The channel display will be labeled with the drug name. The hospital may configure the drug library selections to limit the drug choices or create "short" and "extended" lists to choose from. The appropriate dosing units for each drug are automatically displayed during programming. The clinician may choose to enter the volumetric rate and the instrument will calculate the dose, or to enter the dose and the rate will be calculated. Rapid titration by dose or rate can be accomplished without pausing the infusion.

These features, if enabled, can all be accessed via the "Options" key at the upper right of the main programming display. Please consult the "Directions for Use" for specific programming instructions.

A Word from Our Customers

"For many years, most companies have made decisions about where to buy products based on one factor, price. With new challenges of an increasingly global and cost-conscious marketplace, one has to rethink the approach to purchasing. Along with price, we must also focus on from whom to buy, quality, and customer service. After tropical storm Allison swept through Houston June 9th, we lost all power and transferred or discharged 540 patients. It was 38 days before we could reopen our hospital. During that time, we made a decision to upgrade our Gemini series to the Signature Edition® GOLD.

We evaluated other IV pumps, but with our Level I trauma service, high acuity neonatal patients, and transplant program, we required an IV pump that had to meet complex clinical demands. A major oversight that will ultimately undermine any change effort is the failure to think about the needs of the end user. Through a comprehensive nursing survey rating essential features like transport, weight, critical care, ease of use and safety, ALARIS easily received the highest rating. Within a very short time frame prior to reopening our hospital, Michele Barrett, our Account Consultant, coordinated a dedicated team to manage the conversions. My extended thanks to Art Murray, Karen Kelly, Terry Karr, Staci Grablin, Julie Sanchez and Rachel Rorke. What a group! Michele really was the ultimate den mother, making sure the team had everything they needed including being well hydrated. She kept me updated each day along with the extra nice things she did for the staff. The transition to the Signature Edition® GOLD was very smooth. I also want to thank Darrell Stephens for all his hard work. Without the outstanding ALARIS team, this conversion would still remain a dream."

Wayne L. Kehr, RN
Clinical Resource Coordinator, Memorial
Hermann/Memorial Children's Hospital
Houston, Texas

ALARIS
MEDICAL
SYSTEMS

Administration of Blood Products Using the Signature Edition® Infusion System

Transfusion Tips: Part 3 of a series

Avoiding Air-in-Line Alarms - Signature Edition® Volumetric Pumps can be used to deliver blood products at a wide range of infusion rates without affecting the integrity of the blood product infused. Use of an infusion pump to administer blood products offers the advantages of accuracy, convenience, timeliness and safety. However, there can be some challenges associated with administration of blood and blood products. High protein, viscous solution may have a tendency to froth or foam as it passes through the instrument's pumping mechanism (IVIg and albumin frequently exhibit this tendency). The air detection arm is located immediately below the pumping segment on the Signature Edition® Pump. The pumping action can cause small air bubbles to move up and down in this section of tubing, causing nuisance air-in-line alarms to occur. Several techniques have been found to minimize the chance of this happening:

- Be sure to close the AccuSlide® Flow Regulator clamp before beginning to prime the set.
- Close the clamps on both "pigtailed" of the Y-set.
- Spike the saline bag and prime the set fully.
- Prime the blood spike also, according to your institution's protocol, to be sure that the air in the pigtail doesn't deplete the prime in your drip chamber.
- Be sure that the drip chamber is filled to a level that completely covers the filter.
- You may decide to fill the drip chamber completely. You won't be able to see any drops fall, but there will be a continuous fluid pathway that helps prevent frothing.
- When subsequent units are infused via the same administration set, it is vital to be sure the fluid level in the drip chamber is still adequate.
- Locate the pole clamp rotation lever on the back of the pump (Figure 1). Depress the lever and rotate the pump 90 degrees, so it is "on its side". Form the tubing into a loop upward as it exits the pumping segment, and secure it with tape (Figure 2). If any tiny bubbles form during pumping, they will be trapped in this loop of tubing.

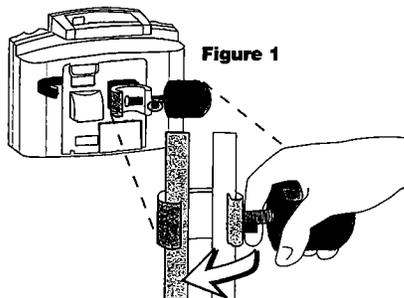


Figure 1

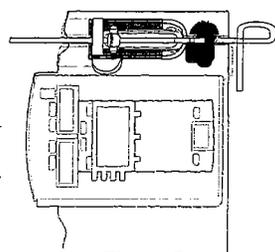


Figure 2

Following these tips will help you to infuse blood products and other viscous solutions safely and accurately via the Signature Edition® Infusion System. See "How Pumps Pump" for further information about flow accuracy and operating conditions.

How Pumps Pump Part 2 of a Series

It is important to know whether the pump you select is appropriate for the clinical task. Specifications can provide guidance in making the right selection. The Emergency Care Research Institute (ECRI), an independent medical product evaluation firm, recommends +/- 10% long term flow accuracy for general care infusions and +/- 5% for critical care, surgical, oncology and similar applications.

Long Term Accuracy - Last time, we said that flow accuracy is specified in terms of an allowed error range, commonly +/- 5%. This means that if the pump is programmed to 100 mL/h, there is some possibility of it actually operating from 95 to 105 mL/h. This is usually acceptable since many infusions are titrated to effect and the accuracy with which IV solutions are mixed may vary by as much as 5%. However, for certain infusions, small variations can have a noticeable impact. For example, in oncology it is common to prepare exactly twenty-four hours worth of solution (plus priming allowance). For each 1% of flow rate error, this infusion would vary the point in time at which all the fluid was used by 15 minutes.

A Little Statistics - Production variations that affect rate accuracy are typically "normally distributed" or put another way, the likelihood of a specific error actually occurring follows a bell-shaped curve centered around 0%. It is typical for a specification to state that 95% of all set/pump systems operate within +/- 5%. Using the bell-curve, we know that ninety percent of all such pumps can be expected to be within +/- 2%, five percent would be between 2% and 5% error and five percent could operate outside +/-5%.

Operating Conditions - Flow Accuracy performance of pumps can be affected by a number of operating conditions. Manufacturer's typically state an IV pump's accuracy under specific conditions. When operating outside these conditions, performance may not fall within the stated range. For example, the elevation of the container above the pump may influence flow rate. The recommended elevation of the container is 24 inches for the Signature Edition® Infusion System. Back pressure from the delivery system may also have an effect on accuracy. A large number of factors influence back pressure including flow rate, vascular access device diameter and length, solution viscosity and site of placement to mention a few.

Next Time - We'll examine short term flow variability next time to see how it can influence the effectiveness of infusing vasoactive and other fast acting medications.

ALARIS SAFETY CELL
NEED ADVISORS

Needle-Free Advantage

SmartSite® Needle-Free Bag Spike Device

The SmartSite® bag spikes (model 2300E and 2309E) ensure maximum compliance with needle-free protocols and allows you to standardize on one integrated needle-free system throughout your facility.

By providing needle-free and latex-free IV therapy, the SmartSite® system offers a whole new level of safety versus traditional systems.

Applications:

Needle-free access of IV bag containers:

- Eliminates costs associated with pre-filled syringes and saline vials for SASH therapies through dispensing single dose quantities from multi dose bags
- Reduces sharps exposures by eliminating needles from SASH protocol
- Access port is swabable and secure
- Available with one-way valve to prevent fluid reflux into source container.

COST SAVINGS OF USING SMARTSITE® BAG SPIKE 2309E VERSUS 10 CC SALINE FLUSH VIALS

STATEMENT OF THE SITUATION

The University of Mississippi Medical Center (Premier Group Affiliation) in Jackson, Mississippi has been using the 10 cc vials for saline flushes on all patients in the hospital. Noting that this requires a needle and the multiple use vial costs associated with patients in the critical care areas, it was deemed important to perform a study to determine the cost effectiveness of using a bag of normal saline and needle-free bag spike versus the vials.

PURPOSE OF THE STUDY

To determine the cost effectiveness of using a bag of normal saline and needle-free bag spike versus the 10 cc saline flush vials in patients requiring multiple flushes per day.

METHOD

A pilot study was designed and approved by the Standards Committee using the 25 bed Medical Intensive Care Unit during a two week trial period. A 1000 cc bag of normal saline with a needle-free bag spike (2309E) was hung in each patient's room. The bag and bag spike were changed out in each patient's room every 24 hours. During that time, each time a flush was drawn from the bag, it was recorded on a separate sheet of paper in each patient's room. Upon discharge, the sheet was then kept in a file folder for later compilation.

RESULTS

Over a two week period, 41 patients were used to compare the cost effectiveness of 10 cc vials versus bag spike with normal saline as a flush.

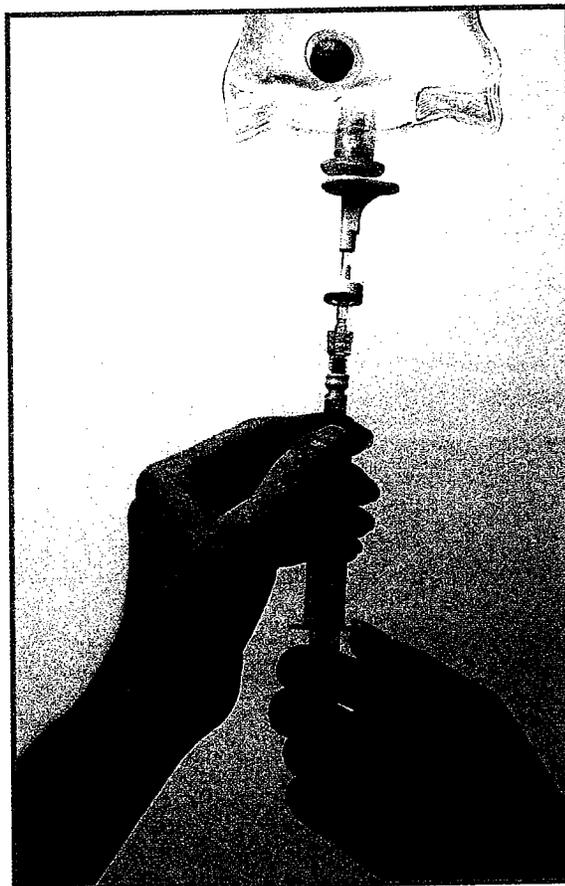
The average number of flushes per patient was 22.5 per patient per day. The range was from 10 – 65 flushes per day. In addition to the elimination of risks associated with needles in IV flushes, the following was presented to the Standards Committee:

1. No smaller than a 250 ml bag of solution should be used for use with the bag spike.
2. Patient must require a minimum of 11 flushes per day to merit the bag economics, as this is the break even level to pay for the spike.
3. Vials are more economical for patients requiring 1 to 11 flushes, unless the goal is needle removal purely.
4. The price per draw decreases substantially with the volume of the bag over 250 ml.

It is estimated that a **35% cost savings** per patient per day could be realized using the SmartSite® bag spike system for IV flushes in the medical intensive care unit resulting in an estimated annual savings of \$9,183 in the MICU*. The costs associated with needlesticks could be factored into the above.

After further discussion and presentation, it was decided by the Clinical Nursing Committee to add the bag spike to all crash carts to prevent needlesticks in a code situation.

*Annual cost savings based on Premier pricing and average patient data obtained during 2 week evaluation. Additional data on file.



IMED ALARIS MAC SMARTSITE

ALARIS *in the* COMMUNITY

United Way/CHAD Presents Leadership Award

By Mary Beth Hennessey, HR Representative

In June, United Way of San Diego presented the Bruce Boland Leadership Award to ALARIS Medical Systems for its outstanding effort during the 2000 United Way Campaign.

The award is given annually to a San Diego area organization that has demonstrated top achievement in the category of Leadership Giving. This category includes all individual donations that exceed \$1,000 during the fund drive. Judging is based on five statistical

factors, including the percentage of Leadership Givers out of a total employee base, the average Leadership gift, the per capita Leadership gift, the Leadership dollar total as a percentage of the overall employee campaign, and the number of recommended United Way campaign steps that were implemented by the organization. To receive the award, the Company was ranked number one in three of the five factors.

At the recognition cere-



Bill Bopp, VP & CFO, and Dave Schlotterbeck, president & CEO (center, right), with the Bruce Boland Leadership Award and (far left) Jerry Sanders, president & CEO, United Way of San Diego County, and Tony Calabrese (far right), president, Combined Health Agencies Drive (CHAD).

mony, Dave Schlotterbeck accepted the award on behalf of the Company, and thanked our own Dave Meyers, DVP of Systems Engineering, for his outstanding volunteerism with United Way and for consistently helping the Company deliver results in the annual

fund drives. According to Meyers, "It helps that we have a very community-minded workforce."

The Bruce Boland Award is on display in the corporate offices in San Diego.

Creedmoor in the Community

By Ella Wilson, Manager, Human Resources NC

The March of Dimes is a national nonprofit organization whose mission is to improve the health of babies by preventing birth defects and infant mortality. The Creedmoor, NC, facility has been an active participant in the March of Dimes annual WalkAmerica since its introduction to Granville County years ago.

Collaborating with the March of Dimes and our community is a win-win activity. This **CROSS-FUNCTIONAL TEAM-WORK** ensures that the March of Dimes and the community's funding efforts are met.

Lester Jenkins, LifeBalance Team member, and Tammy Unger, assistant human resources coordinator, attended the

son. To ensure meeting that objective, the Team organized a hotdog lunch and a bake sale. Employees donated all

project total. The team also sold "footprints" and "hero stars" to raise additional funds.

Toni Washington, Assembler II, striving for **EXCELLENCE** in this project, was the top money raiser with \$120.00. The total amount collected for March of Dimes was \$800.40. At the annual awards ceremony in June, ALARIS Medical Systems was presented with the \$800 Club Award and an award for the team with the greatest increase in its March of Dimes contributions.



March of Dimes®

WalkAmerica 2001 kickoff rally. The LifeBalance Team, being **RESULTS FOCUSED** and taking **OWNERSHIP** of the project, set the goal for Creedmoor at \$500.00, more than \$5.00 per per-

items including hotdogs, buns, homemade chili and slaw. Associates from all departments donated cakes, cookies and pies to be sold at break and lunch. The lunch fundraiser contributed \$347.00 to the

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- Yes!** Please send me information on **Vital•Check®** and a **Vital•Check®** Tip Sheet
- Yes!** I would be interested in receiving this newsletter electronically in the future.

Please fill in the information below and either:

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ALARIS Medical Systems, Inc.
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 Customer Service: (800) 482-4822
 Website: www.alarismed.com

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**The New Leader in
Medication Safety Systems**

Continuous Improvement

by Pat La Londe, continuous improvement manager

Since reading the article about customer satisfaction in the company newsletter, many employees have been asking how they can contribute to customer satisfaction. With such an enthusiastic response, the Customer Satisfaction Team outlines below some ideas about how we can impact customer satisfaction daily when working with coworkers, customers and suppliers. We'll keep you posted in future newsletters on customer satisfaction progress and ways to contribute to this initiative.

Our actions toward increasing customer satisfaction benefit our customers and our company. Our customers will continue to purchase from us and will recommend us to their friends and business associates. Studies indicate companies can create fiercely loyal customers, which makes it tough for competitors to steal those customers away. Our company's greatest assets are our employees, and the number one impact on customer relations is employee relations. We need your help to create loyal customers.

So what can each of us do? We can start with ourselves.

- Pay attention to quality measurements in place so we can prevent escalation of problems.

- Listen to employees, coworkers, suppliers and customers. Say "thank you" for their input.
- Think of the big picture - the overall process or system. Look at the long-range impact on customer satisfaction and resolve problems at their root cause.
- Notify managers to make sure they are aware of issues as soon as they become noticeable. Provide suggestions for improvement.
- Focus on the issues that matter most. Not all issues can be fixed overnight, so it is important to be selective.
- Be careful not to get caught up in "we've always done it this way" or "nobody cares anyway." Keep trying to be heard and make suggestions for improvement.
- Remember: We all want to do a good job, so let's figure out how to make it possible for each of us to do that good job.

I'd like to hear about the areas, processes or systems that you have improved or improvements you've noticed so we can track and highlight our successes. Forward communications to me via email at plalonde@alarismed.com or mail to my attention, Quality Department at Wateridge, Building C. I look forward to seeing what we can achieve. Contact me at extension 7430 if I can be of assistance. ★

Thank you from medical center

Over the holiday season, ALARIS™ Medical donated nearly 3,000 dolls to Children's Hospital and Health Center in San Diego and 21 other children's hospitals across the United States. David M. Boggan, Vice President of Development, from Cook Children's Medical Center in Fort Worth, Texas, wrote the following letter:

"On behalf of our Board of Trustees, our physicians and staff, and especially our young patients and their families, I want to thank you for your thoughtful donation of the *Pocahontas, Aladdin and Hunchback of Notre Dame* dolls to Cook Children's Medical Center received on December 30, 1998.

A spirit of compassion and generosity has surrounded Cook Children's throughout its 80-year history. That spirit continues through your thoughtfulness. Thank you for the kindness you have shared with our patients and we wish you a very happy New Year."

It's great to hear back from our customers and let's continue the spirit of giving in 1999. ★

Corporate focus on Y2K compliance

by Doug Simmons, senior manager, western distribution

Much information has been published about the Year 2000 (Y2K) compliance problem. The Y2K concern refers to computer programs and applications using two-digit year fields that are unable to distinguish between centuries. For example, using the common "mm/dd/yy" format, January 12, 1900 (01/12/00) is indistinguishable to the computer from January 12, 2000 (01/12/00).

Products that depend on date stamping in order to operate accurately may be effected by the Y2K problem. To meet ALARIS™ Medical's definition of compliance, the products must accurately process and store date/time data during, from, into and between the twentieth and twenty-first centuries, and the years 1999 and 2000, including correct processing of leap year data.

Since 1997, ALARIS Medical Systems™ has pursued Y2K remediation. In October 1998, Bill Mercer, president and CEO, established the Year 2000 Compliance Steering Committee to increase Y2K corporate focus. The charter of this committee is to develop and implement a Y2K global compliance process which not only meets the regulatory guidance issued by the Food & Drug Administration (FDA), Security and Exchange Commission (SEC), International Standards Organization (ISO) and others, but more importantly, also strives to provide care givers and patients a seamless Y2K transition.

Eight implementation teams have been established by the Steering Committee to accomplish Y2K compliance for specific areas of the organization. The teams are International, Information Technologies, End Product,

Instromedix Division - TeleLab U.S., Human Resources, Operations, Outside Suppliers and External Communications. The teams are using the following five-step model to obtain the goal. Step One is to assess, identify and list all potentially affected systems. Step Two is to prioritize the impact on the business and establish the earliest impact date. Step Three is to remediate or correct the identified issues. Step Four is to test the systems and applications. And Step Five is to establish a contingency plan. Currently, the teams are in the assessment and initial remediation phases.

To date, the End Product Team has found no Y2K safety related problems with our products. Additionally, Human Resources has found both the Human Resources Information System, which maintains employee data including benefits and compensation, and ProBusiness, which generates payroll checks and maintains tax information, to be Y2K compliant.

There were many solid business reasons for the recent implementation of SAP. However, it should be noted that because SAP is Y2K compliant, its implementation was an important step towards ALARIS Medical's Year 2000 readiness. Although ALARIS Medical still plans to conduct Y2K tests, compliant areas include Customer Order Entry, Sales and Operations Planning, Demand Management, Document and Configuration Control, Master Production Scheduling, Material Management Planning, Quality Management, Inventory Management, warehouse Management, Shop Floor Control, Service Management and Finance. ★

Y2K Compliance Team Members

Eight Y2K Teams have been focused on ensuring all of our products and business applications are Y2K compliant. Thank you for all your hard work.

Steering Committee - Doug Simmons, chair, Jim Andrade, Bernard Carter, Jan Dziejwior, Sylvia Garcia, Reid Middleton, Gary Mills, Bob Mleczko, Carlos Sepulveda, Bill Stewart, Ray Terrones, Brian Thomas and Cindy Wessel

International - Bernard Carter, Kelly Palmer, Carlos Sepulveda and Lon Severe

Information Technologies - Dane Andon, Sylvia Garcia, Joe Lord, Kathleen Loughlin, Chuck MacLaggan, Bob Miller, Reed Roadman and Bill Stewart

End Product - Jim Andrade, Jim Cudney, Mira Milovancev, Bob Mleczko, Patti Woodard and John Yager

Instromedix Division - TeleLab US - Ted Cooper, Bob Hawkins, Gary Mills, Rex Morrison, Steve Robey and Larry Virgin

Human Resources - Nan Boulais and Brian Thomas

Operations - Ubaldo Anaya, Bob Behrend, Sylvia Garcia, Roger Hort, Jeff Hughson, Bart Kersteins and Ray Terrones

Outside Suppliers - Cindy Wessel

External Communication - Jan Dziejwior, Reid Middleton and Bob Mleczko ★

ALARIS™ Medical in the news

Recognized for patents issued

Published in the *San Diego Daily Transcript*, Technology Today, January 1999, the U.S. Patent and Trademark Office saw a record number of patents issued last year. San Diego also saw a busy year in patents, with most patents issued to biotechnology and pharmaceutical firms. Congratulations to ALARIS Medical for having 13 patents issued last year, which placed the company on the 1998 list of the top 10 San Diego companies for numbers of patents issued.

Sponsor of new industry group

A newly established organization in the Institute of Electrical and Electronics Engineers, Inc. (IEEE), the Industry Standards and Technology Organization (IEEE-ISTO) recently announced the formation of its first industry group, the Medical Device Communications Industry Group. Adoption of standardized data communications between medical devices will be accelerated with the formation of this group.

"The Medical Device Communications Industry Group provides a forum for medical device vendors to work together to support and accelerate the development of the IEEE 1073 Standards, as well as market and demonstrate the capabilities of standardized medical data communications," stated Bob Kennelly, executive director, IEEE-ISTO. "The four founding sponsors, ALARIS Medical Systems™, Hewlett-Packard Company, Siemens Medical Systems, and GE Marquette Medical Systems, recognize the importance of standards for medical device communications. Between 10 and 15 vendors are expected to join this effort in 1999."

On February 12, 1999, a new standard for medical device communication was demonstrated at Massachusetts General Hospital (MGH). The demonstration showed data being sent from Gemini® PC2-TX® infusion pumps supplied by ALARIS Medical Systems to a patient monitor supplied by Marquette and a device interfacing system supplied by Hewlett-Packard.

According to IEEE, healthcare providers will realize important benefits from devices that implement the IEEE 1073 Standard because they will be able to directly support placement of data into electronic medical records, as well as the use of devices in home care settings with remote clinician supervision.

"There is presently no widely accepted standard method for medical devices to communicate with one another or interface with hospital information systems," said Tony Semedo, vice president, corporate development. "The first step is to develop industry support for a communications

Employee honored by professional society



Pat La Londe was elected a Fellow of the American Society for Quality.

Pat's professional and personal accomplishments and dedication. Congratulations Pat! ✨

In November 1998, Pat La Londe, continuous improvement manager, was elected a Fellow of the American Society for Quality. This achievement recognizes Pat's significant contributions to the field of quality. Being one of the 38 Fellows elected this year, Pat will be recognized during the 53rd Annual Quality Congress in Anaheim, CA in May. This is a great credit to Pat's professional and personal

Magazine article refuted

In the January 18 issue of *Time Magazine*, the cover article was "Y2K: The End of the World as We Know It?" Within it, Dr. Mark Neuenschwander, head of the AD2000 Crisis Relief Task Force, discusses "potential problems in anesthesia machines, ICU monitors, intravenous pumps and chemotherapy gear." The article continues to say that Dr. Neuenschwander expects potential problems with these devices. Bill Mercer quickly responded to the article. In a letter to the magazine's editors, Bill defends the medical device industry as well as ALARIS™ Medical's products. "...I believe medical device manufacturers will be among the best prepared to handle the challenges of the Year 2000," wrote Bill. In addition, Bill reiterated that at this time, we have found no safety-related operational issues resulting from the Year 2000 transition and beyond. ✨

continued

standard which allows discrete bedside medical devices to be connected to hospital information systems. The MGH demonstration illustrates the potential for new products and existing, or legacy devices, to be upgraded to provide that connectivity. Our efforts in leading a new industry group and developing a new cost-effective standard furthers the realization of our telemedicine strategy," he added.

For more information, look on the company's intranet page, ALARISNET.com. ✨

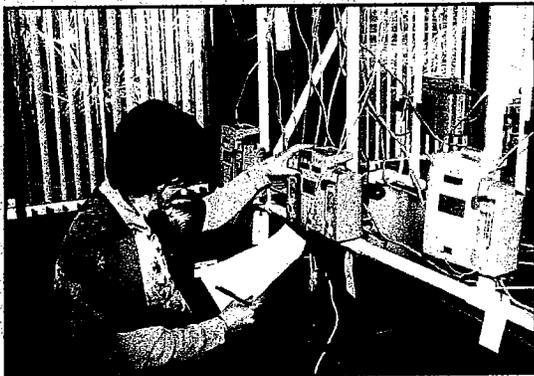
Improved testing process



Mehrzaad Milburn enters data in the pump.

While preparing for the launch of the Signature Edition® Gold pump, an improved testing procedure was implemented. The SE Gold team added an extra phase, behavioral testing, between the laboratory and clinical tests. Behavioral testing yields knowledge of software errors and issues prior to clinical testing. From this information, engineers can analyze the error ratios.

Congratulations to the whole SE Gold Team for setting a higher standard of testing. Thanks to the Officer Team for lending their support to this project and to the following people who made the testing a reality: Bob Butterfield, Jay Gabriel, Susan Gregorio, Kevin Leas, Bella Marinas, Mary Ann Meila, Mira Milovancev, Ahmad Sajadi, Carla Thornton, Tim Vanderveen, Joyce Wyatt and Diego Trevino and the whole facilities group. ★



Mehrzaad Milburn, a nurse at Children's Hospital, Oncology Department, takes part in this research methodology. By using scripts of real-life situations, engineers were able to see the new pump in action.

Tax filing made easier

April 15 will be here before you know it. The Internal Revenue Service (IRS) is easing the burden of filing your taxes by offering a new way to file electronically. The new program, IRS *e-file*, is a safe, fast and convenient way to electronically file your tax return. Last year alone, over 19 million people utilized an electronic method of filing returns.

There are three main reasons to use IRS *e-file*. (1) Fast Refunds — IRS *e-file* will get your refund to you in about half the time, even quicker with direct deposit. (2) Fewer Contacts with the IRS — Returns are more accurate, which reduces your chance of getting a letter from the IRS. (3) Acknowledgment — You receive an acknowledgment when the IRS receives your claim.

To take advantage of this quick and easy system, the IRS *e-file* is available from your tax professional or visit the website at www.irs.ustres.gov. ★



*Inside*ALARIS is published eight times a year for the employees of ALARIS Medical Systems™. Submit news items to Sara Welker, human resources coordinator. Articles can be sent via:

- Wateridge HR fax#: (619) 458-6196
- e-mail Sara Welker at swelker@alarismed.com

Upcoming Events

March 3 — All Employee Meetings at IRC

March 4 — All Employee Meetings at Wateridge