

Clinical Care Connection



Parkland

Connecting Parkland's clinical staff with the latest information and patient care updates January 2010



Pharmaceutical Hazardous Waste Disposal

In 1976, the Environmental Protection Agency (EPA) passed the Resource Conservation and Recovery Act (RCRA). This act dictates how hazardous waste must be handled, including medications routinely distributed and administered in hospitals. Although this act has not been consistently or strictly enforced in the past, many hospitals are beginning to report inspections resulting in heavy fines due to lack of compliance with these requirements.

Parkland's current method of waste disposal for medications is not compliant with the EPA's requirements and could result in heavy fines. Therefore, the Environment of Care Committee has charged Pharmacy with leading the implementation of a compliant pharmaceutical waste process. Please note that although the pharmaceutical waste requirements are the driving force behind the new process, the requirements as outlined in this article also impact non-pharmaceutical waste. The Parkland waste disposal process has been defined as follows:

PHARMACEUTICAL WASTE DISPOSAL:

If the medication needs to go in the black bin, a "black alert" will be on the medication and also on the MAR. Dispose of the black alert pharmaceutical sharps in the black sharps bin. Dispose of the black alert non-sharps (medications, medication packaging, delivery supplies) in the black non-sharps bin.

If the medication does not have a black alert, dispose of the non-sharp waste in the white bin with a blue top. The sharp pharmaceutical waste without the black alert should be disposed of in the regular sharps container (red or white with red writing) that you currently use.

You will continue to dispose of controlled substances by wasting the liquid in a sink and disposing the supplies in either the black or white bin with blue top as described above.

NON-PHARMACEUTICAL WASTE:

Continue to dispose of your non-pharmaceutical sharps in the red/white sharps containers that you currently use. Continue to dispose of your biohazard and infectious waste in the red trash bins that you currently use.

Dispose of all other waste in the regular trash. Do not dispose of medications, medication packaging or delivery supplies (syringe, tubing, medicine cup) in the regular trash.

Needleless cannulas do not need to be disposed of in a sharps container. These are not high risk to penetrate the skin under routine handling. If the needleless adaptor has an internal sharp, dispose of it in the appropriate sharps container (lab tube adaptors).

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Go-Live in ICU

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Additional education will be provided Feb. 6-9. Placement of the bins will begin on Feb. 10. You should begin to follow these guidelines as soon as the bins have been placed on your unit. Posters will be placed on the units for reference during this transition and you can call your nurse educator if you have questions.

Pharmacy Forum

Pharmacy & Therapeutics Committee Decisions from the December 2009 meeting

DAPTOMYCIN 500 MG/ML

Formulary Addition with Restriction

Restricted to infectious diseases attending faculty and fellows for the treatment of:

- Patients with severe MRSA infections (bacteremia and/or endocarditis) with documented vancomycin treatment failures or with MIC > 1 µg/mL to vancomycin.
- Documented resistant Gram-positive infections in patients who have a documented allergy to vancomycin.
- Documented severe vancomycin-resistant enterococcal infections resistant to other antimicrobials.
- Outpatient parenteral antimicrobial therapy in patients who cannot be discharged on vancomycin.

H1N1 INFLUENZA VACCINE

Removal of Restriction

The online Parkland Drug Formulary can be found at <http://www.crlonline.com>.

Target date for implementation: Jan. 18

UAP Exclusive

Lupus

Lupus is a chronic, autoimmune inflammatory disease that can attack different body systems such as the skin, joints, kidneys, heart and lungs. Usually our body's immune system produces antibodies to protect the body from viruses, bacteria and other organisms. In an autoimmune disorder the body's immune system cannot tell the difference between foreign invaders and the body's healthy tissues. Autoantibodies are created that attack and destroy healthy tissue. As a result of this process inflammation, pain and damage occurs in various parts of the body.

At least 1.5 million Americans have Lupus and it is estimated 5 million people throughout the world have some form of Lupus. More than 16,000 new cases of Lupus are reported annually across the country.

What causes Lupus? We don't know. It is possibly a combination of genetics and the environment. Some people may inherit a predisposition toward Lupus but not the actual disease process. Possibly at some point during life contact occurs with something in the environment that triggers the onset of Lupus. It appears within some families but others without any family history can develop it.

Lupus is usually diagnosed between the ages of 15 and 40. Ninety percent of the cases tend to be women although men can also develop it. Other groups at greater risk for lupus are Asian, Hispanic/Latino, Native American, Native Hawaiian or African American. Sunlight (ultraviolet rays may bring on skin lesions or trigger an internal response), long-term use of certain prescription medications and exposure to chemicals (mercury, silica, smoking) can also increase your risk.

There are four forms of Lupus: Systemic Lupus Erythematosus, Discoid Lupus Erythematosus, Drug-induced Lupus Erythematosus and Neonatal Lupus. Systemic Lupus is the most common form and what is typically called "Lupus." It can involve inflammation of the kidneys (Lupus Nephritis), the nervous system and brain and/or joints. Discoid Lupus is limited to the skin, resulting in many types of rashes and lesions (sores). It may also present as a rash over the cheeks and across the bridge of the nose, known as the butterfly rash.

Symptoms of Lupus can vary widely as it may affect many different organs or multiple organ systems. Symptoms can be temporary or permanent and can be episodic. Episodes are called flares. Lupus is not contagious, even through sexual contact. Common symptoms of Lupus, which are the same for females and males, are extreme fatigue, headaches, painful or swollen joints, fever, anemia, swelling (edema) in feet, legs, hands and/or around eyes, butterfly-shaped rash across cheeks and nose, hair loss and fingers turning white and/or blue when cold (Raynaud's phenomenon).

Laboratory Scope

AIM: Appropriate Inventory Management in Transfusion Services

AIM is a data management software tool for blood product inventory management and blood utilization analysis that is being implemented in Transfusion Services at Parkland. The software is provided and hosted by America's Blood Centers (ABC) to its local blood center members (ie, Carter BloodCare) who in turn provide it to transfusion services that they supply.

AIM is web-based software that allows the local transfusion service to input inventory management data as well as utilize various data analysis tools to effectively monitor, track and trend that data. Since this software is a national system, it allows the local transfusion service to benchmark not only against themselves, but against similar participating institutions. This type of benchmarking will allow best practices at other facilities to be discussed and possibly implemented to enhance the inventory management strategies as well as the business functions within Transfusion Services at Parkland.

Various aspects of the blood product inventory are entered into the AIM software periodically. The entry of this information allows the system to provide valuable data and reports that will ultimately aid in the management of our blood products.

Blood Product Inventory: The system will automatically calculate the number of "Days Worth of Inventory" Parkland has based upon the entered data and the number of products the blood supplier has delivered.

Blood Product Wastage: This allows the transfusion service to monitor not only numbers of products that are wasted, but reasons for that wastage.

Crossmatched Inventory and Transfused Data: Many valuable reports are available that will aid Transfusion Services in better managing its inventory.

The staff of Transfusion Services is excited about this new opportunity to better manage its inventory. Even though these are not new concepts, the tools that will be used are far superior to what we currently have. These new tools should ultimately make jobs easier and promote better care for the patients we serve.

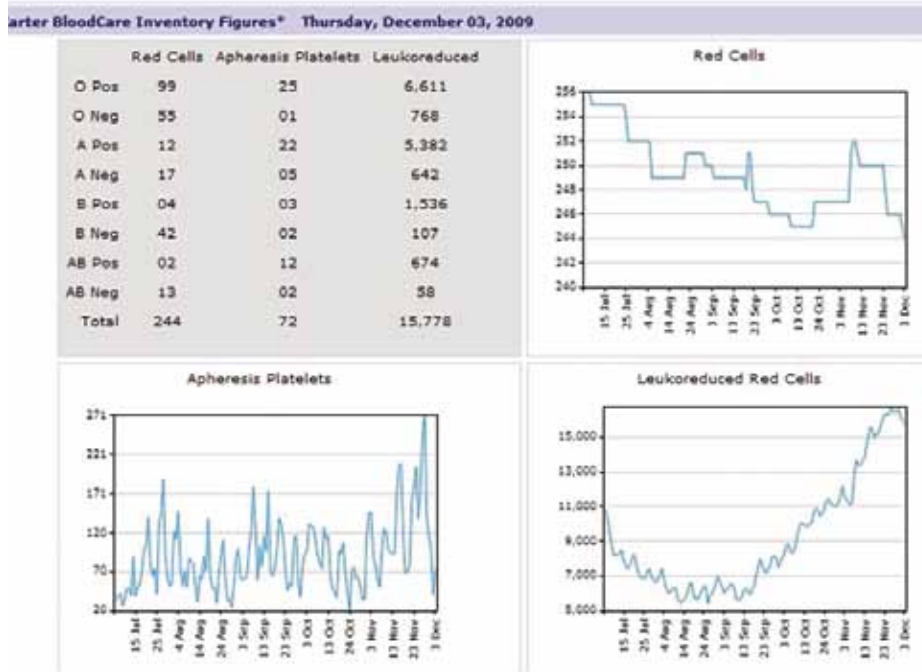
Medical Affairs
GME Supervision Policy Online

The Parkland Graduate Medical Education Supervision Policy and House Staff Supervision Grids are now available on the Parkland Intranet page under the Spotlight Section, GME Supervision.

Each Parkland House Staff Supervision Grid was developed by the appropriate Program Director at UT Southwestern Medical Center. You will notice that some of the programs listed in the GME Supervision Section are not underlined; this indicates that the Supervision Grid is still under construction. When each Supervision Grid is completed it will be added to the GME Supervision section.

In addition, a house staff roster for academic year 2009-2010 can be found under the Spotlight Section, GME Supervision.

If you have questions, please contact the Division of Medical Affairs at ext. 21852.





Vaccine security depends on the knowledge and habits of the clinic staff.

Continual Readiness

Guidelines for Vaccine Storage and Handling

There are three basic elements needed to ensure that vaccines are handled properly: the right equipment, well-trained people and standard operating procedures.

EQUIPMENT

To be sure vaccines are kept at the correct temperatures there needs to be a refrigerator, a freezer and two thermometers, preferably with maximum-minimum temperature recording capability. All refrigerators should have an alarm system and a back-up generator. The alarm will indicate if the temperature drops due to a power outage, doors being left open or malfunction of the unit. Engineering should be called if the refrigerator is out of range and cannot be corrected. In the event of a malfunction/power outage vaccines should be moved to a working refrigerator/freezer.

The refrigerator should maintain temperatures between 2°-8°C (36°-46°F). Since it should never reach temperatures below 0°C (32°F) the temperature should be about 5°C (40°F) to provide the best safety margin. It is important that vaccines be kept at the proper temperature at all times. Frequently opening the door interrupts the cold chain and can result in a cumulative loss of vaccine potency over time. Storing food, sodas or patient specimens in the same refrigerator should be avoided at all times.

Ensure the quality and effectiveness of your vaccines by following some basic tips:

- Check and record internal temperatures. Think about the temperature; is it within the acceptable temperature range?
- Store extra ice packs along the walls, back and in the door racks of the freezer compartment. It provides additional reserves of cold in the event of a power failure.
- Never store vaccines in the doors because the temperatures are not as stable as in the body of the refrigerator or freezer. Diluents can be stored in the door of the refrigerator.

PERSONNEL

Vaccine security depends on the knowledge and habits of the clinic staff. It is a good idea if one trained person is designated to be "in-charge" to ensure that vaccines are handled and stored properly and to designate a back-up person. When recording the reading indicate the degree, time and name of the person checking the temperature.

STANDARD OPERATING PROCEDURES

It is strongly recommended that clinics have written procedures for the storage and handling of vaccines. The written procedures should begin with ordering vaccines and end with the administration of the vaccines. Order only the amount of vaccine you will need for a 60-90 day time-frame. When receiving orders, be sure to look for vaccine shipments and open them as soon as possible after they arrive. Check your order against the packing sheet and check the expiration dates on the vaccines you have received. Always use the shortest-dated vaccines first. At the end of each month, count your inventory and pay special attention to the expiration dates of your vaccines. For any vaccine that will expire within 60 days, call your supplier immediately. In most cases, it can be moved to another clinic where it will be used before it expires.

Outpatient Observations

Evidence Based Practice: Searching the databases for clinically significant evidence

Part 2 of 3

Last month we defined evidence based practice. It is the deliberate planning of patient care based on values and preferences of the patient, nurse's clinical expertise and the best research evidence available (Hockenberry, Wilson, & Barrera, 2006). In addition, it is a process that consists of five phases. The first phase consists of formulating a focused researchable question that will eliminate time consuming searches and irrelevant materials. A common stepwise process termed "PICO" can be used to clearly define the problem (see December 2009 issue).

In this issue, we'll focus on searching the databases and obtaining clinically significant evidence. After writing a researchable question, the next step is to search the databases for the best evidence available. The UT Southwestern library is a great resource. You can search the databases yourself or obtain the services of an experienced librarian who can assist you by using key search terms (search terms may vary depending on the database being used) and the best databases. If you choose to use a UT Southwestern librarian, the service is free to all Parkland employees.

The following is not a complete list but represents some of the more common databases currently in use by nurses:

PubMed (www.ncbi.nlm.nih.gov)

Includes over 15 million citations for biomedical articles dating back to the 1950s. The citations are from MEDLINE and additional life science journals.

CINAHL (www.cinahl.com)

A database specific for nursing and allied health. Nursing publications not found in PubMed can be found through CINAHL.

EMBASE (www.embase.com)

The EMBASE specialties series is a collection of biomedical discipline-specific databases.

Cochrane Library (www.cochrane.org/reviews/)

A standardized bibliographic database which includes the Cochrane database of systematic reviews. These reviews focus on the effectiveness of health care interventions and are primarily reviews of studies which are randomized controlled trials – the gold standard for ascertaining the effectiveness of an intervention.

RATING SYSTEM FOR THE LEVEL OF EVIDENCE (DESCENDING ORDER)

- Level I** Evidence from systematic reviews of all relevant randomized control trials (RCT) or evidence based on clinical practice guidelines derived from multiple reviews of RCTs.
- Level II** Evidence obtained from at least one well designed RCT.
- Level III** Evidence obtained from well designed controlled trials without randomization.
- Level IV** Evidence from non experimental studies (e.g., case-control and cohort studies).
- Level V** Evidence from multiple reviews of descriptive and qualitative studies.
- Level VI** Evidence from a single descriptive or qualitative study.
- Level VII** Evidence from the opinion of authorities and/or reports of expert committees.

Source: Modified from Melnyk and Fineout-Overholt, 2005.

Level I (evidence from systematic reviews of relevant RCTs) provides the best support for the effectiveness of an intervention. Level VII provides the weakest support. Unfortunately, due to barriers to evidence based practice in the clinical setting, nurses too often rely on the opinion of authorities or reports from committees.

Next month, we will look at critically appraising your research findings.

References:

Hockenberry, M., Wilson D., & Barrera, P. (2006). *Implementing evidence-based nursing practice in a pediatric hospital*. *Pediatric Nursing*, 32 (4), 371-377. Melnyk, B., M, & Fineout-Overholt, E. (2005). *Evidence-based practice in nursing & health care*. Philadelphia: Lippincott Williams & Wilkins.

Med Surg Memos Preparing for an Autopsy

When a patient expires there is always a possibility that an autopsy will be done. Hospital deaths of certain types must be reported to the Medical Examiner's office, such as any patient dead on arrival or if they expire within 24 hours of admission. Parkland has in place a policy and procedure to reference if you are in question about an autopsy. Policies can be found under nursing procedures # NSG 15-10 and NSG 15-11.

When a body is being brought to the morgue for autopsy the nursing unit delivering the body must page the autopsy alpha pager to let them know that a body is being delivered and is in need of an autopsy. The alpha pager number is 214.573.1004. Make sure to provide the patient name and MRN and that the body is being delivered for autopsy. This will ensure there is no delay in performing the autopsy and releasing the body. The chaplain on call should also be notified prior to transporting the body to the morgue. The Admission to Morgue/ Record of Death form (R-10), the Death Information Worksheet (R-25) and the Authorization for Autopsy (R-30) should be completed and given to the chaplain.

Patient Safety & Risk

Patient Safety Culture – Survey Results

Parkland defines a “Culture of Safety” as an integrated pattern of individual and organizational behavior, based upon a shared mission, vision, beliefs and values that continuously seek to minimize the risk of harm to our patients, staff and visitors that may result from the processes of care delivery. In Patient Safety & Risk we are continually striving to improve patient safety. The staff’s perception helps us determine if we are improving our Culture of Safety.

The Patient Safety Culture Survey is conducted annually. The system used is a standardized questionnaire developed by the Agency for Healthcare Quality and Research (AHRQ). Many other facilities utilize this survey to determine the staff perception of Culture of Safety. From the survey results we can see how we are doing compared to previous years as well as how we are doing compared to other institutions.

We would like to thank everyone who participated in the 2009 Culture of Safety Survey. This year it was electronic to make it easier for staff to respond. We had 1,541 staff participate in the survey. Of the divisions, Medicine Services had the highest number of responses. Of the disciplines that participated, nursing had the highest number of participants.

Forty one percent of the respondents gave the hospital an overall patient safety grade of very good with 25 percent giving Parkland a grade of excellent. These scores are comparable with results from last year as well as other institutions. Two strengths emerged from the results: 1. working as a team to get work done quickly when needed and 2. actively doing things that improve patient safety.

Areas for improvement that emerged from the results include: 1. using more agency/temporary staffing and 2. staff concern that mistakes they make are kept in their personnel files.

In Patient Safety & Risk some projects we are working on to improve the Culture of Safety include:

1. Communicating results with leadership and drafting actions plans to address areas for improvement.
2. Starting a unit-based safety engagement program where analysts from Patient Safety & Risk will do unit rounding to address specific patient safety issues and offer education and training on event and process review.
3. Providing feedback on PSNs entered by doctors.
4. Developing Patient Safety Liaisons in coordination with the Department Safety Liaison program.

We hope that these efforts will make for a safer environment for our patients and a stronger perception of a Culture of Safety by staff. If you would like to volunteer to represent your unit or division as a Patient Safety Liaison please call the Patient Safety & Risk office at ext. 21780 and ask to speak to a project manager.

The WISH List

Masimo Radical-7 Pulse Oximetry

Parkland has recently acquired the Masimo Radical-7 Pulse Oximetry System for Labor & Delivery, Neonatal ICU and Newborn Nursery. This system is designed to increase patient safety and reduce medical errors by providing accurate and reliable SpO₂ readings even during motion and low perfusion. In addition to measuring oxygen saturation, pulse rate and perfusion index, the Masimo Radical-7 has the capability to measure total hemoglobin, total arterial oxygen content, PVI, carboxyhemoglobin and methemoglobin levels. Other features of this system include automatic display rotation, which allows for vertical or horizontal positioning and visualization and a rechargeable four hour battery which allows utilization as a handheld unit if desired. Programmable 3D alarms improve patient safety by providing thresholds for provider specified desaturation and perfusion index levels. The Masimo Radical-7 Pulse Oximetry System can provide the bedside clinician with a more accurate picture of the patient’s physiological status. For further questions, please contact Masimo Technical Support at 800.326.4890.



Correction:

In the December issue WISH List article, the volunteer Santa was Lynn Bennie.



Safety Stop

DSL: Department Safety Liaison

DSLs are volunteers from many departments within Parkland and the COPCs who agree to be the safety representative for their team, unit or department.

The Culture of Safety at Parkland is comprised of three tenants: 1) executive commitment, 2) director and manager involvement, and 3) employee ownership. DSLs are an integral component of the latter, employee ownership. The DSLs have volunteered to help take ownership of the hospital safety program and help ensure the environment of care is maintained for employees, patients and visitors. The DSL team also plans and executes the annual Culture of Safety Fair and sponsor initiatives like the recent Culture of Safety bulletin board contest.

Dodd Day, the Hospital Safety Officer, describes DSLs as “force multipliers” because they increase the presence of the Safety Office and the Culture of Safety throughout the hospital.

The DSL program has been so successful the Parkland Patient Safety Officer, Dr. Angelique Ramirez, recently announced plans to create PSLs – Patient Safety Liaisons. Look for more information about PSLs in the near future.

A DSL meeting is scheduled once a month where all DSLs get together to continue their professional development and share “best practices.” The meeting is usually held at 8 a.m. on the second to last Thursday of the month in the Ron J. Anderson, MD Conference Center. The monthly meetings feature guest speakers and presentations from many subject matter experts. DSLs then return to their respective areas and share this important information with their team.

Any Parkland employee may volunteer to become a DSL. Simply inform your immediate supervisor and then call Sharon Tyrrell, Safety Coordinator, at ext. 24620, to get added to the DSL calendar and distribution list.

To see previous DSL presentations go to <http://intranet.pmh.org/safety/dsl.asp> on the Parkland Intranet.

Parkland DSLs come from departments across the health system.

Care Management Corner

New Employees and New Care Guidelines

Care Management has welcomed a new RN case manager and a new social worker. Stella Coker, RN, is working as a floater in WISH. Adam Richard, LMSW, is a former social work intern who has returned to work part-time.

Please join Care Management in congratulating Mary Carter, LMSW, LCDC. She has earned the outstanding accomplishment of Social Worker of the Quarter. Mary was nominated by her colleagues and is an excellent social worker who demonstrates all of the values of the profession.

Care Management went live with the Milliman Care Guidelines on Nov. 30. Parkland uses the Care Guidelines to promote high quality health care using evidence-based practice methods to improve patient care. The guidelines will aid in determining appropriate patient admissions, assist with discharge planning and aid in coordinating transitional care. A link for the Guidelines can be found on Parkland’s Intranet.



O'Kelly Harrison, RN, treats patient Homer Sims in the Cardiopulmonary Care Unit.

Patient Education Update

Patient Education = Lower Hospital Readmissions

On page 17 of the Winter 2009 issue of *Parkland* magazine (Volume 46 No. 4) is an article titled "Study to focus on predicting, preventing readmission." In the article, Dr. Ruben Amarasingham, Parkland's Associate Chief of Medicine Services, discusses causes of patient readmission and is quoted as saying, "This could be from a number of factors, such as the patient not understanding discharge instructions...."

Dr. Amarasingham is one of many who are studying the impact of patient education on readmission rates. Here's a report from Iowa: "The Transition Home for Patients with Heart Failure program at St. Luke's Hospital in Cedar Rapids, IA, incorporates a number of components to ensure patients a safe transition to home or another health care setting. These components include enhanced assessment of post-discharge needs at admission, thorough patient and caregiver education, patient centered communication with subsequent caregivers at handoffs and a standardized process for post-acute care followup. The program reduced the 30-day readmission rate for heart failure patients from 14 percent to 6 percent."

Here is more detail about their teaching component:

"Thorough education for patients, caregivers: An enhanced teaching and learning process was implemented to ensure that patients and family members understand discharge instructions, self-care instructions, medications and other post-discharge issues. Family caregivers are identified so that education can be provided to both the patient and the caregivers. Education techniques include the following:

Using basic communication strategies: Such strategies include speaking slowly, avoiding use of jargon and using simple, short sentences.

Asking patients and families how they learn best: Nurses provide alternatives such as enhanced education packets with written materials, videos and audiotapes, personalized discussions and interpretive services.

'Ask Me Three' This technique, under the umbrella of the National Patient Safety Foundation, emphasizes three critical questions: 1. What is the main problem? 2. What should I do? and 3. Why is it important to do this? Professionals provide information that fits within these three questions.

Teach back methodology: Patients are asked to repeat back educational information provided to confirm their understanding. Gaps in understanding are identified and re-taught.

Return demonstrations: Patients are asked to demonstrate their ability to perform what was taught; for example, patients may be asked to weigh themselves and record their weight in front of the caregiver.

Small segments of critical material repeated frequently: Health topics are broken down into learnable sections (no more than four points at any given time); only essential information—such as use of diuretics and when to call the doctor—is provided (additional education can be provided after discharge). Patients are re-taught this information each day to improve recall, with new content added if comprehension seems strong. Written material is provided to reinforce messages and to be used for home reference."

Helping to reduce hospital readmission rates is only one of the positive consequences of patient education, but it is one that pays off in patient quality of life, patient satisfaction and in health care dollars. What a return on your teaching investment.

*The latter two quotes are from the AHRQ Health Care Innovations Exchange, Innovation Profile, Associated Quality Tool: <http://www.innovations.ahrq.gov/content.aspx?id=2327>
The Transforming Care at the Bedside Toolkit (2/16/09): <http://www.innovations.ahrq.gov/content.aspx?id=2206>*

Critical Care Vital Signs **Rapid Assessment Team (RAT)**

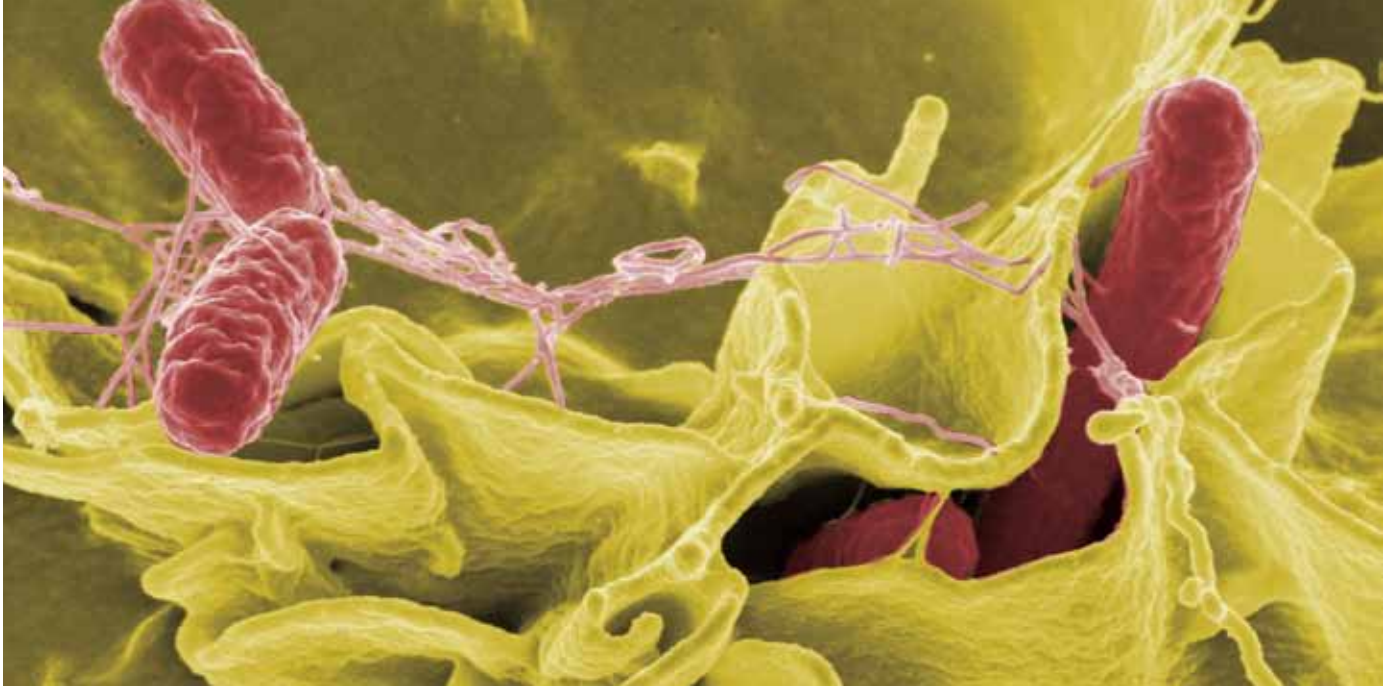
Parkland's Rapid Assessment Team (RAT) was initiated in early 2006. The Rapid Assessment Team was brought about by a push from the Institute for Healthcare Improvement (IHI) and their Save 100,000 Lives campaign. Three main problems in health care were identified nationwide: failure in planning, failure to communicate and failure to recognize the extent of the problem. These three problems most often led to failure to rescue. With the creation of this type of team, the health care arena began to see better patient outcomes and less codes outside of the ICU setting. Since 2006, our Parkland Rapid Assessment Team has become involved in numerous house-wide initiatives and continues to be an amazing resource to all of us. Although their roles and responsibilities continue to climb in our effort to provide better patient care, each member of this team demonstrates what it means to "lend a helping hand." They consistently exhibit qualities and attributes in line with Parkland's mission, vision and guiding principles, the "CIRCLES of Life." Many are unaware of the support this team provides for our patients and staff. Below is a list of Parkland's RAT responsibilities.

- Team lead in the House-wide Resuscitation Team
- Induced hypothermia management following cardiac arrest
- Stroke management
- Assists with central venous catheter insertion (C-Line Assist)
- Responds to medical assist calls (Med Assist)
- Provides rapid assessments to declining patients
- Coordinates patient care in collaboration with medical teams
- Advance cardiac life support (ACLS) transport service for patients requiring a higher level of care
- Provides support during elevator entrapment
- Assists in setting up Cardiac Cath Lab after hours
- Provides expert clinical advice and addresses staff concerns r/t patients needs

This team will most likely expand in their roles as we continue to look for improvements in the care we deliver here at Parkland. We all should continue to utilize the expertise that this team has to offer and support them as they grow. If you have questions, please contact Lori Dudley at ext. 28352.

Front row: Mary Jackson, Heather Wolf, Tangalon Wilkerson and Andrea Smith **Middle row:** Nancy Casanova, Loren Dudley, Susamma Samuel, Tamyé Bowman and Travis Thomas **Back row:** James Allen, Andrew Green and Darren Burns





Infection Control

Salmonellosis

What is Salmonellosis?

Salmonellosis is an infection with bacteria called Salmonella. Most persons infected with Salmonella develop diarrhea, fever and abdominal cramps 12 to 72 hours after infection. The illness usually lasts four to seven days and most people recover without treatment. However, in some cases the diarrhea may be so severe that the patient needs to be hospitalized. In these patients, the Salmonella infection may spread from the intestines to the blood stream and then to other body sites and can cause death unless the person is treated promptly with antibiotics. The elderly, infants and those with impaired immune systems are more likely to have a severe illness.

What sort of germ is Salmonella?

Salmonella is actually a group of bacteria that can cause diarrheal illness in humans. They are microscopic living creatures that pass from the feces of people or animals to other people or other animals. There are many different kinds of Salmonella bacteria. Salmonella serotype Typhimurium and Salmonella serotype Enteritidis are the most common in the United States. Salmonella germs have been known to cause illness for over 100 years. They were discovered by an American scientist named Salmon, for whom they are named.

How can Salmonella infections be diagnosed?

Many different kinds of illnesses can cause diarrhea, fever or abdominal cramps. Determining that Salmonella is the cause of the illness depends on laboratory tests that identify Salmonella in the stool of an infected person. Once Salmonella has been identified, further testing can determine its specific type.

How can Salmonella infections be treated?

Salmonella infections usually resolve in five to seven days and often do not require treatment other than oral fluids. Persons with severe diarrhea may require rehydration with intravenous fluids. Antibiotics, such as ampicillin, trimethoprim-sulfamethoxazole or ciprofloxacin are not usually necessary unless the infection spreads from the intestines. Some Salmonella bacteria have become resistant to antibiotics, largely as a result of the use of antibiotics to promote the growth of food animals.

Are there long term consequences to a Salmonella infection?

Persons with diarrhea usually recover completely, although it may be several months before their bowel habits are entirely normal. A small number of persons with Salmonella develop pain in their joints, irritation of the eyes and painful urination. This is called Reiter's syndrome. It can last for months or years, and can lead to chronic arthritis which is difficult to treat. Antibiotic treatment does not make a difference in whether or not the person develops arthritis.

How do people catch Salmonella?

Salmonella live in the intestinal tracts of humans and other animals, including birds. Salmonella are usually transmitted to humans by eating foods contaminated with animal feces. Contaminated foods

usually look and smell normal. Contaminated foods are often of animal origin, such as beef, poultry, milk or eggs, but any food, including vegetables, may become contaminated. Thorough cooking kills Salmonella. Food may also become contaminated by the hands of an infected food handler who did not wash hands with soap after using the bathroom.

Salmonella may also be found in the feces of some pets, especially those with diarrhea, and people can become infected if they do not wash their hands after contact with pets or pet feces.

What can a person do to prevent this illness?

There is no vaccine to prevent Salmonellosis. Because foods of animal origin may be contaminated with Salmonella, people should not eat raw or undercooked eggs, poultry or meat. Raw eggs may be unrecognized in some foods, such as homemade Hollandaise sauce, Caesar and other homemade salad dressings, tiramisu, homemade ice cream, homemade mayonnaise, cookie dough and frostings. Poultry and meat, including hamburgers, should be well-cooked, not pink in the middle. Persons also should not consume raw or unpasteurized milk or other dairy products. Produce should be thoroughly washed.

Cross-contamination of foods should be avoided. Uncooked meats should be kept separate from produce, cooked foods and ready-to-eat foods. Hands, cutting boards, counters, knives and other utensils should be washed thoroughly after touching uncooked foods. Hands should be washed before handling food and between handling different food items.

People who have Salmonellosis should not prepare food or pour water for others until their diarrhea has resolved. Many health departments require that restaurant workers with Salmonella infection have a stool test showing that they are no longer carrying the Salmonella bacterium before they return to work.

It is important for the public health department to know about cases of Salmonellosis. It is important for clinical laboratories to send isolates of Salmonella to the city, county or state public health laboratories so the specific type can be determined and compared with other Salmonella in the community. If many cases occur at the same time, it may mean that a restaurant, food or water supply has a problem that needs correction by the public health department.

Other tips include:

- If you are served undercooked meat, poultry or eggs in a restaurant, don't hesitate to send it back to the kitchen for further cooking.
- Wash hands, kitchen work surfaces and utensils with soap and water immediately after they have been in contact with raw meat or poultry.
- Be particularly careful with foods prepared for infants, the elderly and the immunocompromised.
- Wash hands with soap after handling reptiles, birds or baby chicks and after contact with pet feces.
- Avoid direct or even indirect contact between reptiles (turtles, iguanas, other lizards, snakes) and infants or immunocompromised persons.
- Don't work with raw poultry or meat and an infant (e.g., feed, change diaper) at the same time.
- Mother's milk is the safest food for young infants. Breastfeeding prevents Salmonellosis and many other health problems.

How common is Salmonellosis?

Every year, approximately 40,000 cases of Salmonellosis are reported in the United States. Because many milder cases are not diagnosed or reported, the actual number of infections may be thirty or more times greater. Salmonellosis is more common in the summer than winter.

Children are the most likely to get Salmonellosis. The rate of diagnosed infections in children less than five years old is about five times higher than the rate in all other persons. It is estimated that approximately 400 persons die each year with acute Salmonellosis.

Source: Centers for Disease Control and Prevention

Salmonella live in the intestinal tracts of humans and other animals, including birds. Salmonella are usually transmitted to humans by eating foods contaminated with animal feces.

Performance Improvement Medicine Core Measures Update

Core measures are a set of indicators collected on specific patients to measure some aspects of the quality of care in the inpatient setting. The Joint Commission and CMS require that we gather this data and report to them on a quarterly basis. In the following tables you will see the most recent data for selected conditions as well as data on state and national averages. Our goal at Parkland is to exceed the 90th percentile on all of these measures. Performance improvement teams are organized when new measures are published or when we need to make changes in order to improve. We are excited to have some nurses in the RN III network joining us to become "champions" in their areas to help increase awareness and spread improvement. If you have any questions about this data or want to join our efforts, please call Marisa Valdes at ext. 24227.

Next issue we will highlight the Surgical and WISH core measures.

	Hospital Quality Measures	Parkland performance (2009 aggregate)	Top 10% of hospitals score	TX state average	National Average
Acute Myocardial Infarction					
AMI 1	Aspirin at Arrival	99%	100%	93%	94%
AMI 2	Aspirin Prescribed at Discharge	96%	100%	91%	93%
AMI 3	ACEI or ARB for left ventricular systolic dysfunction	100%	100%	89%	91%
AMI 4	Smoking Cessation Advice/Counseling	100%	100%	97%	96%
AMI 5	Beta Blocker Prescribed at Discharge		100%	93%	94%
AMI 8	Primary PCI Received within 90 minutes of hospital arrival	54%	100%	74%	79%
Congestive Heart Failure					
HF 1	Discharge Instructions	93%	99%	76%	77%
HF 2	Evaluation of LVS Function	99%	100%	88%	90%
HF 3	ACEI or ARB for LVSD	95%	100%	89%	89%
HF 4	Adult Smoking Cessation Advice/Counseling	100%	100%	91%	92%
Community Acquired Pneumonia					
PN 2	Pneumococcal Vaccination	97%	99%	85%	85%
PN 3	Blood Cultures Performed in the Emergency Department Prior to Initial Antibiotic Received in Hospital	84%	99%	91%	92%
PN 4	Adult Smoking Cessation Advice/Counseling	99%	100%	90%	90%
PN 5	Initial antibiotic received within 6 hours of arrival	76%	100%	93%	93%
PN 6	Initial Antibiotic Selection for CAP in Immunocompetent Patient	88%	98%	87%	88%
PN 7	Influenza Vaccination	94%	99%	85%	85%

Nursing Informatics Go-Live in ICU a Success

The Dec. 3 go-live for the ICU flowsheets went very well. ICU nurses rock! Not only did they adapt to the new documentation easily, but they are offering suggestions for improving the flowsheet. Many of the suggestions have been adopted and the changes made.

An asterisk now indicates which rows on the flowsheet will populate the intake/output report.

One note: when adding a row for "misc output," be sure to change the display name. When doing so, don't forget to include the asterisk in the new name as a reminder to everyone that this is an output row. Also remember that if the medication does not appear on the Doc Flowsheet, it might be completed and hidden. So be sure to unhide your ICU flowsheet to check.

SICU, MICU and CPICU are developing a work flow for documenting CRRT intake and output on the Doc Flowsheet so that it is consistent in all departments. It is important that volumes not be documented twice.