Diabetes is a group of metabolic diseases that affects 24 million Americans and can be explained very simply in the following example. When we eat food, our bodies break down sugars and starches into glucose, which is the basic fuel for all of our cells and tissues. The pancreas then secretes the hormone insulin which removes the glucose from the blood and moves it into cells and tissues.

In the most common type of diabetes, which is referred to as type 2 diabetes, either the body does not produce enough insulin or the insulin is ineffective in moving glucose into the cells.

In either case, the resulting buildup of glucose in the blood, called hyperglycemia, often damages vital organs such as the kidneys, nerves and eyes.

For decades, the diagnosis of diabetes has been based on elevated blood glucose levels, measured either by the fasting glucose or the oral glucose tolerance test. Both require that the patient undergo an overnight fast, which can be a major inconvenience. In addition, fasting glucose levels often vary significantly in individuals, since they are dependent upon on short term dietary changes.

Due to the shortcomings of those tests, the American Diabetes Association’s new Clinical Practice Recommendations call for the addition of the hemoglobin A1C test as a means of diagnosing diabetes. This test has been used for years as a measure of how well people are doing in keeping their blood glucose levels under control.

A1C is a marker of chronic hyperglycemia, reflecting average blood glucose levels over a two to three month period of time. Currently, the test plays a critical role in the management of patients with diabetes. There is an inherent logic to using a more chronic versus an acute marker of hyperglycemia, particularly since A1C is already widely familiar to clinicians as a marker of glycemic control. Moreover, A1C has several advantages over the fasting glucose, including greater convenience since fasting is not required and there is less day to day variation of glucose levels. A1C is measured in terms of percentages and it measures a person’s average blood glucose levels over a period of up to three months.

Under the new recommendations, A1C levels of 6.5% or greater should be used to make the diagnosis of diabetes. A1C levels of 5.7–6.4% would indicate that blood glucose levels are in the prediabetic range, meaning higher than normal but not yet high enough for a diagnosis of diabetes.

Prediabetes is a condition in which individuals have blood glucose levels higher than normal but not high enough to be classified as diabetes. People with prediabetes have an increased risk of developing type 2 diabetes, heart disease, and stroke. The Centers for Disease Control estimate that 57 million Americans have pre-diabetes and that 40% of these will become fully diabetic in 3-8 years if untreated. The new standards also advise monitoring individuals with prediabetes on a yearly basis to prevent progression to full blown diabetes.

According to the Centers for Disease Control and Prevention (CDC), one-fourth of all Americans with diabetes, approximately 5.7 million people, do not even realize that they have it! The CDC hopes that the ease of the A1C test will facilitate identifying such individuals and facilitate their treatment. The American Diabetes Association emphasizes that the A1C test should be performed in a laboratory using a method that is certified by the National Glycohemoglobin Standardization Program. Laboratory Alliance’s hemoglobin A1C method is certified and is performed daily.
On January 12, a 7.0 magnitude earthquake struck Haiti. For 35 seconds, at 4:43 p.m., the earth shook in the economically poorest country in the Western Hemisphere.

On February 13, Michael FitzGerald, M.D., hand-carried Pap smear and biopsy specimens from his mission to Haiti to the Rapid Response Laboratory at St. Joseph’s Hospital Pathology Offices. This was the end of the journey for specimens from a country and a healthcare system devastated by an earthquake.

Dr. FitzGerald, his wife Margaret, and their colleagues with the Order of Malta have traveled annually to the Hôpital Sacré Coeur (HSC) meaning Sacred Heart, in Milot, Haiti. He recently sat down with me to describe his most recent trip to Haiti, approximately three weeks after the disastrous earthquake.

Can you describe the conditions you found after the earthquake?

My daughter Megan, a new pediatric nurse practitioner, traveled to HSC a week after the earthquake. She stayed in Haiti for 10 days, returned home for a week, and then was called by Project Hope to work on the USS Comfort, the US Navy mobile medical treatment facility. She kept us informed of the overwhelming situation. Megan was providing care to 100 children by herself.

I called Pediatricians Robert Dracker and Jim Ciricione to join me in bringing in more help. It was most disturbing that many children had crushing injuries and were amputees. In a 72-bed hospital, they had more than 400 patients. They converted spaces to handle the patients. The nutrition center became the pediatric ward; the waiting room became the ICU.

How did this visit differ from your visits to Haiti in previous years?

Usually, I travel with a group of doctors which may include a cardiologist, an OB GYN and an internist or plastic surgeon. Each one would see the patients that the nun would have waiting for them. A plastic surgeon may repair cleft palates. I would do endoscopies and colonoscopies.

On this trip, I saw those patients and went on to do rounds in the tents filled with patients on cots. I cleaned wounds and changed bandages. In Haiti, when a person is in the hospital, family members stay nearby to feed them, care for them and bathe them. Despite the hardships, the mothers see their children go to school in clean, pressed uniforms, at 8 a.m.

Do you have some examples of the spirit of the Haitians you would like to share?

The patients were young people and babies with amputations. There were two teenage girls that were boogying and smiling on crutches. We had a nurse who had lost her leg years earlier to osteogenic sarcoma and she shared her story with all the kids so they could see that this had happened to her too. There is a social stigma for amputees, so I am concerned about their future. The nun, Dr. Karen Snyder, a pediatrician, had the kids singing and parading through the adult wards. There was singing, clapping and smiles.

Can you describe the medical laboratory resources at Sacré Coeur?

They have a basic chemistry/hematology lab. They performed 77,128 laboratory tests in 2008. A nun from the Midwest helped set up the lab and comes back regularly to maintain the lab. However, the generator does not run after 7 p.m., so there is no refrigeration and no microbiology. When the hospital expands they will need a bigger lab, and 24-hour electricity.

How would the specimens you brought back for cytology and histology tests usually be handled?

I had an OB GYN come to Syracuse and visit St. Joseph’s Hospital in December 2009. He had experience with abdominal ultrasounds. I wanted him to learn upper abdominal ultrasounds to help with the patients I cared for in Haiti. This doctor would have sent his tests to Port-au-Prince, 70 miles south. Due to the destruction of the earthquake, this was not possible.

What is needed now in Haiti?

The CRUDEM Foundation, staff at the HSC and residents of Milot have been incredible. When the residents heard the injured would be flown in by helicopter to the town soccer field, they repaired the dirt roads. They filled the pot holes so the patients would have a smoother ride to the hospital.

So much is still needed. We need oxygen, medications, nutrition, supplies and equipment. For example, an oxygen generator was funded by a group in New York City. In previous years, 170 physicians visited the HSC, this year 400-500 physicians will visit.

Dr. Michael FitzGerald and his wife Margaret in Haiti in February 2010.
Highlights from the 2009 Safety Report
Vickie Campany, Director of Quality Assurance

There’s a difference between having a safety program and implementing a safety program.

Proper training from the beginning of employment is the key to a successful safety program. The Occupational Safety and Health Administration (OSHA) guidelines for employer compliance state that a properly conducted training program will ensure comprehension and understanding.

This means it is not enough to read the information to employees or hand them material to read. To be compliant with OSHA, training must provide the opportunity for employees to ask questions.

In 2009, 389 Laboratory Alliance employees received their mandatory annual OSHA training by attending one of 18 available interactive sessions. The session sizes ranged from two to 42 attendees. It is interesting to note that when asked ‘whose safety is OSHA concerned with?’ most employees answer ‘everyone’s safety!’ when in fact, OSHA’s only focus is employee safety.

Unfortunately, at-work injuries and illnesses are not a thing of the past. April 28, 2009, was designated Workers’ Memorial Day, which recognizes U.S. workers who died or sustained injuries or illness in the workplace.

In 2007, the most recent data available, 5,488 workers died from occupational injuries, 49,000 deaths were attributed to work-related diseases, and 4 million private-sector workers had a nonfatal occupational injury or illness, according to the National Institute for Occupational Safety and Health (NIOSH).

OSHA proposes a Four-Point Workplace Program to ensure employees’ safety. The components include (1) Training and Education (2) Hazard Prevention and Control (3) Worksite Analysis and (4) Management Commitment and Worker Involvement.

(1) Training and Education: At Laboratory Alliance, the safety mantra is “the textbook never closes.” On a monthly basis, safety continuing education topics are distributed to all employees. Topics include both laboratory safety, such as Universal Precautions, Hand Hygiene and Hepatitis B, and personal safety, such as Slips, Trips and Falls, H1N1 Flu Facts and Latex Allergies.

Continual reminders are also sponsored by the New York State Department of Health (NYSDOH). Their laboratory standards for technical competency require observation with the following safety protocols: Is the employee wearing appropriate personal protective equipment (PPE)? Is the employee disposing of waste properly? Is there documentation of workstation decontamination?

(2) Hazard Prevention and Control: Hazard prevention and control is an on-going process that is accomplished by weekly and quarterly safety audits that are conducted by each site’s safety officer. Each safety officer is a member of the Laboratory Alliance Safety Committee. Currently, the committee is comprised of 17 employees committed to their own and their co-workers’ safety.

(3) Worksite Analysis: In November 2009, all New York state licensed laboratories received a copy of proposed revisions to the current NYSDOH Laboratory Safety Standards. One proposed item was to conduct an infectious agent risk assessment. One element of the risk assessment was to determine the practices and procedures that shall “incorporate the use of appropriate PPE such as lab coats or gowns, face shields and disposable gloves intended to protect the worker from splashes, spills or other direct contact infectious specimens/materials.”

As a period of time had elapsed since our previous infectious agent risk assessment, a comprehensive workstation evaluation took place network-wide. With the assistance of each site’s management staff, individual workstations were identified along with its associated mandatory PPE. Highly visible signage was created and posted in each workstation’s area. As with any new initiative, there was extensive communication with the affected employees.

(4) Management Commitment and Worker Involvement: In 2009, management examined the current Employee Incident Form and enhanced the supervisor investigation section to include the question, “Was the incident preventable?” Our goal was to drill down to the root cause of the primary incident so as to prevent a secondary incident from occurring.

Further discussion took place and the final decision was to create a separate Supervisor Incident Investigation Report. In addition, an access database was created for the data entry of both forms. This will provide management with tracking and trending reports. In addition to providing valuable information, both initiatives were very pleasing to our Worker’s Compensation Carrier.

From the day an employee starts their career at Laboratory Alliance, there are many individuals working very hard (behind the scenes) to keep that employee safe. We need our employees at work because most importantly, our patients need our employees.

Technology Corner
The following new tests and test methods have been added to the menu of tests performed by Laboratory Alliance:

- Blood Parasite Screen (Replaces Malaria ID)
- Beta-2 Glycoprotein 1 IgG/IgM
- Enhanced Enteric Pathogen Panel – Campylobacter by EIA

Please note that our most current laboratory test menu and other important information can be found on our website at laboratoryalliance.com.
Most everyone knows that Staphylococcus aureus is an important bacterial pathogen that can cause localized as well as serious, life-threatening systemic infections. Most people may also know that methicillin (oxacillin) was a popular antibiotic to treat staphylococcal infections but, with its widespread use, bacterial resistance developed so we now have Methicillin-Resistant Staphylococcus aureus (MRSA). As such, alternative antibiotics, such as vancomycin, were used to treat MRSA infections.

Vancomycin has been used for many years to effectively treat infections caused by MRSA. Although vancomycin continues to be an effective antibiotic for treating MRSA infections, there is evidence that some strains of MRSA are developing resistance to this drug. These new strains of MRSA are not completely resistant to vancomycin but they are to not susceptible to vancomycin either. Such isolates are called Vancomycin-Intermediate Staphylococcus aureus or VISA.

The prevalence of VISA appears to be increasing in our community. Our microbiology laboratory detected the first confirmed VISA isolate in Central New York over a year ago with two additional isolates detected this past February. Although these findings of increased MRSA resistance may not be cause for alarm, it certainly is a cause for concern because MRSA is becoming VISA... a bad bug getting worse!

Importantly, scientific comparative evaluations of this new assay have showed conclusively that the RT-PCR assay is 20 to 40% more sensitive for detecting RSV and influenza A/B viruses than the best of established cultural methods. As such, the in-house performance of this multiplex RT-PCR assay will provide timely results within the same day of specimen receipt using one of the most sensitive and reliable methods that is currently available.

With the use of the RT-PCR assay, our microbiology laboratory offers the following test algorithm for the detection of RSV and influenza A/B viruses in nasopharyngeal samples.

Nasopharyngeal samples are first tested for the presence of these viruses by using an immunofluorescent EIA test that offers the convenience of a 24 hour per day service with turnaround times of less than one hour. Studies have shown that this fluorescent-based technology is the best EIA screening test for detecting these viruses with reported sensitivities of 70% to 80%.

Because there is a possibility of a “false negative” screening test result, all negative specimens are reflexed tested by RT-PCR which provides for the most sensitive, but more time consuming method, for detecting these viruses. The RT-PCR assay takes around 3 to 4 hours to complete so test results are available within the same day or next day of specimen receipt.

The use of this two test algorithm for the detection of RSV and influenza A/B viruses in nasopharyngeal specimens provides for the most reliable test results in the shortest period of time so that antiviral therapy can be administered within the 48 hour time frame required for therapeutic effectiveness.
A Culture of Safety: Part II
By Jayne L. Healey, M.D., Assistant Director of Laboratories

Part I of this series, which ran in the Spring 2009 issue of Lablines, introduced the concept of pre-analytical error with a focus on patient identification. Although patient identification is a critical pre-analytical variable, it is not unique in its potential for serious adverse outcomes.

Also included within the pre-analytical phase are specimen collection and specimen transport. The importance of proper specimen collection cannot be over-emphasized, as it is the basis for all subsequent analytical processes and, ultimately, reported results.

Potential performance measures for sample collection include: test ordering, timing, container choice, volume, clotting or hemolysis and specimen contamination.

On specimen receipt, laboratory staff members recognize many of these problems, but potential errors may still escape detection. In terms of patient safety, a statement by the European Pre-analytical Scientific Committee (EPSC) puts it best, “We cannot rely only on the good will of the operators.” Even when detected, the unnecessary delay associated with recollection can have a negative impact on patient care. In addition, it introduces a component of waste into a medical system already squeezed by fiscal constraints.

The table to the right lists some of the most common causes for sample rejection, in both outpatient and inpatient settings. The majority of them are avoidable.

Potential causes of hemolysis during phlebotomy include: small needle gauge, prolonged tourniquet time, syringe transfer and vigorous mixing. Transport and processing procedures may also lead to hemolysis. These include temperature and duration of transport, as well as centrifugation variables.

The leading cause of hemolysis in Emergency Department settings is blood collection through soft-walled catheters into vacuum tubes. These catheters are not intended to withstand the force of suction and collapse, causing hemolysis. This practice should be strongly discouraged.

Insufficient sample volume is most often encountered in pediatric and critical care settings. Although potentially difficult, proper tube filling is worth the extra effort.

Most laboratory tests require a minimum volume of specimen for processing, and insufficient volume can preclude testing. Tubes containing anticoagulant require a specific fill volume to ensure the proper blood:anticoagulant ratio.

Without the proper ratio, test results become invalid. In these instances, insufficient volume leads to specimen rejection and additional delay. Underfilled blood culture bottles are another common and very serious problem faced by modern laboratories. An inadequate amount of blood represents a sampling error and can lead to false negative culture results, with potentially catastrophic consequences for the patient.

Samples collected using the wrong tube, container or swab must also be recollected. This delay and inconvenience to patients is avoidable. Instructions for proper collection are available on the Laboratory Alliance website, laboratoryalliance.com. Customer service is also available for guidance. The same principle applies to test ordering. Both the website and customer service are valuable resources for questions regarding test choice, timing of collection, etc.

Whole blood samples require adequate anticoagulation and proper mixing in order to prevent clot formation. The presence of fibrin clot can impede testing on many levels. Fibrin strands may physically interfere with sample uptake and processing by automated equipment.

Cell counting will be inaccurate by any method in the presence of significant clot formation. Cells become trapped within the clot matrix, and adequate estimation becomes impossible. Clot-based tests (PT, aPTT, etc) will be similarly affected, as coagulation factors are consumed.

Although it introduces delay, recollection is mandatory. Testing performed on a clotted specimen will provide inaccurate information and should not be requested.

Contaminated samples pose a similar but more insidious problem. A common example is blood drawn from an intravenous line. Contamination can occur from heparinization or from simultaneously-delivered IV solutions.

Contamination can sometimes be detected by alert staff members. But again, relying solely on the good will of the operators is not an adequate safety net for patient testing. Care must be taken up front to avoid possible contaminants.

When laboratory staff report possible contamination, specimen recollection is recommended. The importance of this cannot be stressed enough. Medical decisions based upon erroneous lab results from diluted specimens can lead to devastating clinical outcomes.

The pre-analytical process does not end with specimen collection. Some samples require immediate processing, such as centrifugation. Others have specific transport requirements (ice, room temperature, etc). Sample processing and transport requirements should be reviewed prior to collection. Sample stability may be critical if long distance or weekend transport is involved. Add-on tests are particularly susceptible to stability issues. Requests to perform testing past sample stability are highly discouraged. Stability

Continued on page 8
Clostridium difficile — A Gastrointestinal Pathogen of Increasing Concern

By Paul A. Granato, Ph.D., Director of Microbiology

On March 3, the New York State Department of Health released a Health Advisory document titled “Guidance for Prevention and Control of Healthcare Associated Clostridium difficile Infection.” The distribution of this advisory was prompted by reports of increasing rates of severe C. difficile infection (CDI) in hospitals located in the Central and Western regions of New York state and signaled the growing concern of public health officials regarding the importance of this serious intestinal pathogen in healthcare institutions.

In the past, most patients who developed CDI were hospitalized, in a nursing home, or recently discharged from the hospital. In addition, these patients usually had certain risk factors for acquiring infection, such as receiving prior antibiotic treatment, and the major symptom of disease was usually diarrhea. As such, the most common type of CDI that occurred in these patients was called antibiotic-associated diarrhea.

Aside from causing antibiotic-associated diarrhea, CDI can be responsible for other diseases with severe outcomes including pseudomembranous colitis, toxic megacolon, perforations of the colon, sepsis, and, on occasion, death. Public health officials and healthcare providers are showing increasing concern about CDI because patients are developing more severe disease with higher mortality rates. Furthermore, the CDI is occurring with alarming prevalence in individuals who have never been hospitalized and have no history of significant risk factors for developing infection.

Severe CDI has been associated with the emergence of a mutant, hypervirulent strain of C. difficile referred to as North American Pulse-field type 1 (NAP1). The mutant NAP1 strain is characterized as having a deletion of the cdC gene, which encodes for the negative regulator gene of toxins A and B production. These toxins are responsible for causing the antibiotic-associated diarrheal disease and the various other bowel syndromes. In short, because these NAP1 strains can not turn off toxin A and B production, they produce 25 to 30 times the normal amount of toxins resulting in more severe disease with higher mortality rates.

In addition, the NAP1 strains are also resistant to fluoroquinolones which gives the organism selective advantage to cause disease due to the widespread use of this class of antibiotics to treat other infections in hospitals and the community.

In August of 2009, our Microbiology Department began offering a new, real-time PCR test for laboratory diagnosis of Clostridium difficile gastrointestinal disease. This new gene amplification assay offers the best test sensitivity (95%) of any available method for establishing the laboratory diagnosis of this infection.

Prior to the availability of this PCR test, the laboratory diagnosis of C. difficile diarrheal disease was problematic as there was no method that provided for the reliable diagnosis of this infection.

Traditionally, culture and cytotoxin assay were regarded as the laboratory “gold standards” for diagnosis but the sensitivities of even these tests were less than perfect. In addition, these methods are labor intensive and time consuming and, for these reasons, are not offered by most clinical microbiology laboratories. Instead, most laboratories offered EIA tests that screen for toxins A and/or B have the poorest sensitivities ranging from 43% to 55%. Because of this high assay sensitivity, PCR test results may remain positive for many weeks after the completion of treatment. As such, Test of Cure testing is not recommended. Similarly, repeat testing in the face of an initial negative PCR result is of limited value and very costly because of the reliability of the PCR result.

Another important advantage of this assay is that it allows expedited random access testing with results available within two to three hours of specimen receipt. As such, “expedited” testing can be performed on request under special circumstances.

Using the PCR assay, we have found that at least 50% of the toxin-positive stool specimens were produced by the hypervirulent NAP1 strain of C. difficile. This observation is particularly noteworthy because the prevalence of this hypervirulent strain has now reached epidemic proportions since Laboratory Alliance first reported the detection of this strain in our community (LABlines 2008. “Hypervirulent Clostridium difficile. Vol. 5: p.3).

NOTE: Please visit our website at laboratoryalliance.com, to read the NYSDOH health advisory “Guidance for Prevention and Control of Healthcare Associated Clostridium difficile Infection” in its entirety.

Welcome to Our New Clients

Doctors Bregman & Dines
Watertown, N.Y.

Montanaro Chiropractic
Liverpool, N.Y.

Lynda Kreitzer, D.P.M.
North Syracuse, N.Y.
New Employees

Welcome our new employees

At our Operations Center
Pamela Breland – Phlebotomist
Debbie Chandler – Phlebotomist
Ralph Dapo – Phlebotomist
Allen Davis Sr. – Courier
Frederick David – Courier
Bernadette DeVine – Laboratory Office Assistant
John Dittmar – Laboratory Office Assistant
Richard Harris – Courier
Stephen Iorio – Courier
Leslie Keehfus – Laboratory Office Assistant
Patricia Patterson – Phlebotomist
Ryan Rathbun – Technical Processing Assistant
Bradley Reed – Laboratory Office Assistant

At our Corporate Office
Tamika Ripply – Customer Service Representative

At our Rapid Response Laboratory
at St. Joseph’s Hospital
Meriem El-Hassni – Medical Technologist
Jaclyn Fehlman – Laboratory Office Assistant
Maya Lindstrom – Anatomic Pathology Receptionist
Joanna McLeod – Technical Processing Assistant
Jayson Rancier – Laboratory Office Assistant
Brittany Thomas – Laboratory Office Assistant

At our Rapid Response Laboratory
at Community General Hospital
Ann Billion – Laboratory Office Assistant
Brendon Cochran – Anatomic Pathology Processor

Employee Anniversaries

April, 5 years:
Heidi Parkhurst
Marco Trogman

May, 5 years:
Krista Absalon
Marla Morabito

May, 10 years:
Antonietta Lane
James Trembley

June, 5 years:
Robin Corlis
Stanley Ferris
Jennifer Lillie

June, 10 years:
Shannon Nayyar
Susan Salerno
Tonya Woodard

Take the Corporate Challenge

By Becky Reynolds, Microbiology Department

Join us on Tuesday, June 22, for the Corporate, an evening of fitness and fun, followed by food.
Run, jog or walk the 3.5 mile course on the parkway.
This is a fun, non-competitive event, with proceeds donated to local area not-for-profit organizations.

This event is one of the ten “Greenest Races,” according to Runner’s World magazine. As such, alternative transportation to the race site is provided, waste is recycled at the race and registration is online.

Registration is due by Monday, May 24. To register go to www.jpmorganchasecc.com. Click on “Syracuse” under the Series Schedule. Then click on either “Registration” or “Companies” under About Syracuse.

On the form, fill in at least the bold fields and the T-shirt size. When it asks for payment information, click on the circle for pay later/my payment is being covered by the company captain. Laboratory Alliance will be paying the $30 entrance fee for each participant.

When done, you will receive a confirmation number in an e-mail from confirmation@jpmorganchasecc.com. Don’t forget to enter the T-shirt size, as we also need it for the company-issued T-shirt.

The website is very informative, but if you still have questions, please call Becky Reynolds, Microbiology Department at the Operations Center, at 410-7067 days.

Don’t forget to register by Monday, May 24. Hope to see you there!

Employees listen as Ron Sweet (second from left) addresses the Lean Team at a weekly briefing as part of our Lean Initiative. He is joined by Beth Blair (left), Lonnie Stallcup and Michele Botwinick (third and fourth from left). Brian Dapp, facilitator from OpEx, is seated at the table.
**CALENDAR OF EVENTS**

- **Thursday, May 20**
  - Loretto 6th Annual Benefit Celebration Luncheon, Oncenter, Syracuse. Laboratory Alliance is a corporate sponsor.

- **Friday, June 4**
  - CLMA of CNY Quarterly Meeting. Laboratory Alliance is a corporate sponsor.

- **Friday, June 4**
  - St. Joseph’s Hospital Health Center Foundation Gala. Laboratory Alliance is a corporate sponsor.

- **Thursday, June 10**
  - 20th Annual North Country Laboratory Managers Symposium, Watertown, N.Y. Laboratory Alliance will be an exhibitor.

- **Friday, June 18**
  - Community General Hospital’s 26th Annual Pro-Am Golf Tournament, Shenandoah Golf Club at Turning Stone. Laboratory Alliance is a corporate sponsor.

- **Monday, July 19**
  - Crouse Health Foundation Classic Golf Tournament, Bellevue Country Club. Laboratory Alliance is a corporate sponsor.

- **Tuesday, June 22**
  - JPMorgan Corporate Challenge, Onondaga Lake Park, 6:25 p.m. Laboratory Alliance employees should register by Monday, May 24, online at www.jpmorganchasecc.com.

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**Why worry?**

When we don’t replace vitamin D daily, our body will meet its needs by stealing calcium from our bones, weakening them over time — a process that can contribute to the development of osteoporosis and weaken our immunities. Vitamin D deficiency may also increase the risk of heart disease and colon and prostate cancer.

**Testing provides important information.**

A vitamin D deficiency is diagnosed by measuring the concentration of a specific form of vitamin D in blood. Unfortunately, many tests do not measure the supplemental form of vitamin D. **It is imperative to request a total vitamin D test (25-OH vitamin D) in order to assess your true status — a total test that measures vitamin D$_2$ and D$_3$ levels in the blood.**

Ask your doctor if you should be tested. To learn more, visit [www.laboratoryalliance.com](http://www.laboratoryalliance.com) or call (315) 461-3008.

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**A Culture of Safety: Part II**

Continued from page 5

limits have been thoroughly investigated by test manufacturers and should not be ignored.

For all tests on the Laboratory Alliance website, associated processing, transport and stability parameters are listed.

The desire for rapid turnaround should never obviate the need for accuracy in clinical decision-making. Therefore, appropriate attention should be paid to specimen collection, processing and transport requirements. After all, test results from these specimens will ultimately be used to guide patient care.

For more general information, Becton Dickinson sponsors a useful pre-analytical resource center on its website at [specimencare.com](http://specimencare.com).