

Winter 2011

sysmex news

Florida Blood Services – Processing 350,000 blood donations annually

Every blood sample that enters the door of Florida Blood Services (FBS) receives twelve hours of screening and confirmatory testing prior to release of the associated blood components for patient use. The need for reliable hematology analyzers with a high level of uptime, coupled with its need to process more than 350,000 blood donations annually, prompted FBS's decision to purchase Sysmex XE-2100D™ Automated Hematology Analyzers for three of their quality control locations.

While FBS's primary instrument requirements were reliability, performance and speed, FBS also needed instruments that would help them meet the rigorous quality controls standards set forth by the FDA and AABB. Currently the Florida sites using the Sysmex XE-2100D are FBS-Southwest, St. Petersburg, FBS-Southeast, Lakeland, and FBS-Northwest in Pensacola.

Headquartered in St. Petersburg, Florida, FBS provides for the whole blood and blood product needs of 101 hospitals and other ambulatory healthcare facilities throughout 42 counties in Florida, Georgia, and Alabama through its seven biologics manufacturing and distribution centers. FBS, through its partnership with Creative Testing Solutions (CTS), also serves as a primary testing center for 30 East Coast blood centers and medical facilities from Maine to Puerto Rico.

“Our decision to purchase Sysmex instruments was based on a number of factors, not the least of which was the known reliability of Sysmex instruments. Having to process so many donor samples each day, we had to have instruments with little ‘downtime’. The instruments also came highly recommended by various institutions that pointed out Sysmex's excellent customer service,” said Horacio Requena, BB(ASCP)^{CM}, Technical Manager of the Products QC lab at FBS.

The key attribute, however, was the instrument's ability to accurately report high platelet counts. “The high linearity is essential,” said Requena.

(continued on page 3)



President's Message



As we begin 2011, it is expected that key industry organizations and their thought leaders are forecasting healthcare trends for 2011.

Accountable Care Organization (ACO), which surfaced as a result of last year's healthcare reform legislation, continues to be noted in this dialogue as a healthcare model that may help improve quality of care, increase efficiency and reduce overall healthcare spending.

Since Sysmex America has long been a solutions provider that supports clinical laboratory models that help to improve patient care, enhance operations and reduce cost, you could call us an *accountable care organization*. In this issue of *Sysmex News*, you will learn how PeaceHealth and Florida Blood Services (FBS) have partnered with our *accountable care organization* to create their own clinical laboratory models of efficiency.

PeaceHealth is an integrated healthcare network with medical centers in Alaska, Washington and Oregon that seeks process improvements that make a “best practice” difference in patient care. PeaceHealth began its relationship with Sysmex America in 2004 with the installation and implementation of a first-of-its-kind automated hematology system at this IHN's core reference laboratory. This Sysmex hematology automation solution enabled hands-free operation from front-end specimen loading through final slide making and staining. PeaceHealth has since expanded its hematology standardization and process improvement initiatives with Sysmex to include 9 of its hospital network laboratories.

You also will note in this issue the story of FBS. FBS processes 350,000 blood donations annually. Like PeaceHealth, they needed a hematology solution that would enhance their operational efficiency. But FBS also needed the confidence that its hematology instruments would help them meet the rigorous quality control standards set forth by the FDA and AABB.

President's Message *(continued on page 2)*

President's Message (continued)

In both of the articles mentioned above, each institution also sets forth affirmations about the quality of Sysmex America's post-sales support. Sysmex is an innovator in this capability beginning with our Peak Performance Program. Our program offers a rich and comprehensive set of systems and resources that work together to support the long-term success of a clinical laboratory or blood bank/blood processing center before, during and after instrument or system purchase. In fact, this program is as much a part of our total "solution" strategy for our customers as the instruments themselves.

More than ever before, healthcare providers must balance the need to provide quality patient care with the need to deliver that care as efficiently and cost-effectively as possible. These needs are not going to change, so it is our responsibility as a manufacturer to provide products and service support that helps meet these needs, both today and long-term.

When one reflects on PeaceHealth and Florida Blood Services and the continuum of care they represent, one might ask, "Why did PeaceHealth and Florida Blood Services entrust their obligations to quality, efficiency and cost-containment to Sysmex?"

The reasons are simple. Sysmex is **accountable**. Sysmex **cares**. Sysmex is a comprehensive sales and support **organization** that enables clinical laboratory professionals to contribute to their institutions' overall missions of providing quality care efficiently and cost-effectively – today and for years to come. In fact, the advancement of medical care is also our mission. It is what we call the Sysmex Way.



John Kershaw

President & CEO, Sysmex America, Inc.

Sysmex Latin America & the Caribbean Sponsor National Blood Donor Event

Sixty four years ago the country of Brazil established a November 25 National Blood Donor Day to raise awareness about blood donations and to encourage first-time and repeat blood donors to give blood.



The Fundação Pró-Sangu Foundation, the largest blood bank in Latin America, organizes an entire week's activities around this day known as "Blood Donor Week." The 2010 Blood Donor Week was held November 23 – 27 with Sysmex Latin America & the

Caribbean serving as a primary sponsor for the event. During this week, more than 3,400 people register to donate blood at five of the Foundation's collection sites resulting in 3,000 collection bags.

"It was an honor for Sysmex to sponsor such an important event. It was especially appropriate considering the Foundation uses the Sysmex XS-1000i Automated Hematology Analyzer as part of its blood bank quality control processing," said Leonardo Amaral, Media & Events Coordinator, Sysmex Latin America & the Caribbean.

According to Fundação Pró-Sangue the Sysmex XS-1000i has proven to be an effective tool for platelet quality control in its blood banks.* There are also ongoing studies that use the analyzer for identification and standardization of other cell types. The Sysmex XS-1000i is well recognized for its high linearity, said Leonardo.

Sysmex's sponsorship was noted in a magazine given to participating blood donors. In a letter to Sysmex, the Foundation recognized the company for its endeavors citing Sysmex as "responsible for the good results of the blood donor week."

Fundação Pró-Sangue is a non-profit entity associated with the State Healthcare Agency and to the University of São Paulo Medical School. The Foundation is the largest blood bank in Latin America and is responsible for supplying blood for more than 130 hospitals throughout São Paulo. In 1998, it obtained the ISO 9001:2000 certifications from the British Standards Institution, being the first public blood bank in Brazil to implement quality control in its products and services. Since then, Fundação Pró-Sangue has repeatedly renewed its certification and improved its procedures.

*Not cleared in the USA for this use.

(continued from cover)

“The Sysmex XE-2100D has an extended linearity for platelet counts up to 5 million, and it can also read hematocrits as high as 75%. This removes a significant source of error because it is not necessary to dilute specimens with high counts in order to get a result, so it also saves a great deal of technologist time.” A high platelet control material is available in addition to the normal three levels of QC material.

FBS quality control laboratories serve a number of audiences providing the data one would expect from a manufacturing-based, rather than clinical-based operation. Component therapy requires assessment of red cell and platelet populations. “We mainly test products, not patient samples,” explains Requena. “This means we are concerned with product potency, purity and safety. Values that are 'normal' for us would probably spark alarm in the clinical setting.”

The Sysmex XE-2100D* is primarily used to obtain daily platelet counts, WBC counts and hemoglobin concentration measurements. However, it is also used heavily in validations of new or serviced apheresis equipment, new collection sites and new products such as Acrodose, the pre-storage pooled whole blood-derived platelet product, ALYX automated red cell and plasma products and the recently FDA-approved InterSol platelet additive solution (PAS).

“In order to implement PAS and obtain licensure from the FDA, we have to test and submit results from a significant number of platelet products. The Sysmex analyzer is crucial in this task.”



“The training and implementation process for the XE-2100D installations were seamless due to Sysmex's Technology Integration Specialists who were present to support our instrument changeover. Of significant note was the smoothness of the required multiple product correlation studies and validation protocol,” said Melissa Langford, MLT(ASCP)^{CM}, a tech at FBS. Langford also notes the usefulness of Sysmex's web-based, inter-laboratory quality assessment program, *Insight*TM IQAP, as well as the plethora of Sysmex training resources, including 24-hour/7-day online training, print materials, and Sysmex's virtual classroom. Implementing Sysmex's products has had a positive effect on operational efficiency. “Simply, the instrument is reliable and has little down-time.

This in itself has improved our turnaround time and we've realized financial benefits through increased productivity as well. And not that we have needed much, but service has been excellent,” said Requena.

FBS recently added Sysmex Network Communications Systems (SNCS) to further enhance its operational efficiency. SNCSTM is a software system that continuously monitors Sysmex instruments to securely capture and analyze “real-time” instrument performance data. By remotely monitoring Sysmex instruments online and in realtime, Sysmex can automatically and proactively connect customers to the Sysmex service tracking and dispatch systems for rapid problem resolution.

“We believe that Sysmex spent the time to consider the needs of the blood banking community and incorporated those needs into its XE-2100D series features designed for us.” Florida Blood Services has been a Sysmex customer since 2007.

FBS is a member of the AABB, America's Blood Centers (ABC), the American Society for Histocompatibility and Immunogenetics (ASHI) and the Florida Association of Blood Banks (FABB). It is also licensed by the Food and Drug Administration (FDA), and the state of Florida. In addition, FBS is a collection center for the National Marrow Donor Program (NMDP).

FBS was organized in 1993 as the result of a merger of Community Regional Blood Center (St. Petersburg), Hunter Blood Center (Clearwater) and Southwest Florida Blood Bank (Tampa). Since the original merger in 1993, Florida Blood Services has been joined by Manatee Community Blood Center in 2004, Northwest Florida Blood Center in 2008, Southeastern Community Blood Center in 2008 and BloodNet USA in 2009.



*The Sysmex[®] XE-2100D, Automated Hematology Analyzer, is intended for *in vitro* diagnostic use in clinical laboratories and donor centers as a multi-parameter hematology analyzer using EDTA anticoagulant and in blood

processing centers for QC release testing of post processed components using anticoagulants (CPD, CP2D, ACD-A, CPDA-1) commonly used in non-whole blood products for red blood cell components (CP2D, ACD-A, CPDA-1, CPD) for RBC, HGB and HCT parameters and platelet components (CPD and ACD-A) for PLT and MPV parameters.

Sysmex – Making a Difference at PeaceHealth

Ranked by CNN as the fourth best place to live in America, Bellevue, Washington is also the home to PeaceHealth, an integrated healthcare network with medical centers in Alaska, Washington and Oregon.



Like its headquarters' city, PeaceHealth hospitals also have earned their share of industry rankings including a "Top 100 Hospitals" by *Modern Healthcare*; one of the "Best Places for Care" in Oregon by Healthcare Research Corporation; and "No. 1 Heart Program in Washington State" by HealthGrades. With this demonstrated commitment to quality, it is no surprise that Oregon state's largest reference laboratory, formerly known as Oregon Medical Laboratories (OML), owned and operated by PeaceHealth, and now PeaceHealth Laboratories, has been a recipient of the College of American Pathology's (CAP) highest inspection rating under the CAP accreditation program.

But for all of its awards and industry recognition, PeaceHealth's vision to *"serve patients with safe, evidenced-based, compassionate care; every time, every touch"* remains its stronghold. It is this vision that drives PeaceHealth to seek process improvements that make a "best practice" difference, especially in the clinical laboratory.

Sysmex America first became an integral part of the PeaceHealth vision in February 2004 via OML's renovation, expansion and standardization initiatives. At that time, through the use of advanced robotics and specimen handling, Sysmex offered first-of-its-kind automation enabling OML hands-free operation from front-end specimen loading through final slide making and staining. Today PeaceHealth's process improvement initiatives extend to nine of its network laboratories.

Combined, PeaceHealth's smaller laboratories, which run 100 – 400 samples daily, and its larger laboratory that runs up to 800 CBC's daily, process 730,000 samples annually.

In Springfield, Oregon, which serves as a primary testing site, the current workflow has racks of blood passing down a conveyor to the instruments where the barcode is read and the correct test is performed. If results are normal or near normal, they auto release without any review, and the blood can be archived. If the results require review, a report prints listing the flags and actions required by the operator; and a slide is automatically prepared and stained. This allows the operators to focus attention on only the truly abnormal samples, improving efficiency and turnaround time, while improving accuracy.

Even with such a wide range of laboratory workloads and complexities, PeaceHealth was able to equip each laboratory with a Sysmex instrument.

"Even though each of our testing sites has different testing requirements, we were able to purchase hematology equipment perfectly suited for each site. This is one of the reasons we chose to standardize all hematology testing with Sysmex instruments," said Julie Halic, Chief Operations Officer at PeaceHealth Laboratories. Other reasons for PeaceHealth's decision include the known reliability and accuracy of Sysmex instruments, automation, field service support and Sysmex's responsiveness to problem resolution.



"Sysmex also has shown innovation with new parameters such as Immature Platelet Fraction (IPF), Reticulocyte Hemoglobin (RET-He) and the Immature Granulocyte (IG) count. The IG count will allow us to report a six-part automated white

cell differential," said Halic. "Overall, our Sysmex purchases will standardize interfaces, reduce our maintenance load and prepare us for the future," she added.

When queried about "stand out" experiences with Sysmex to date, the PeaceHealth clinical laboratory team notes that instrument flagging and reporting of the IG% led to implementing a peripheral smear review policy to complement, and in some cases replace, the manual WBC differential.

The decision to purchase Sysmex instruments was led by a cross-regional group of operations staff, managers and technologists who met regularly. Together, these individuals conducted an eighteen-month long evaluation of available hematology systems with specific focus given to the top four systems. Site visits to multiple other laboratories were done as well as on-site evaluations of the systems, evaluating studies of flagging, specimen stability, efficiency, and technical performance including precision and flagging efficiency. The group also surveyed a large number of users.

Sysmex America, in turn, visited all PeaceHealth Laboratories' sites, performing workflow analysis for each based on each site's current and future needs followed by meetings with the system's laboratory manager, CEO, COO and CFO.



Ultimately the group's 100-page final evaluation report led to PeaceHealth's decision to purchase Sysmex's hematology solutions. PeaceHealth's Sysmex hematology contract includes Sysmex XE-5000, Sysmex XE-2100 and

Sysmex XT-1800i Automated

Hematology Analyzers with future aim to add Sysmex WAM™ to PeaceHealth's clinical laboratory infrastructure.

According to George Webber, Health System Account Manager, Sysmex America, "We believe Sysmex hematology solutions fit well with PeaceHealth's approach to collaborate and standardize best practices for ongoing improvement in patient care across operations. By standardizing instrument platforms, information integration, and advanced technologies, PeaceHealth's laboratories will achieve unexpected levels of optimization for laboratory operations that literally transform productivity – all of which offers the enormous benefits of standardized care and consistency. Sysmex America is honored to be a PeaceHealth partner."

PeaceHealth, named as a top 50 best-performing health care system in the U.S. by a Thomson Reuters study, is a not-for-profit system with medical centers, critical access hospitals, medical group clinics and laboratories located in Alaska, Washington and Oregon. PeaceHealth's excellence in management of heart failure, heart attack, pneumonia, and surgical infection prevention consistently earn PeaceHealth national recognition in patient-centered care, patient safety, healthcare technology and cost efficiency. PeaceHealth was founded 100 years ago by the Sisters of St. Joseph of Peace.



PeaceHealth's Sacred Heart Medical Center at RiverBend in Springfield, Oregon opened in 2008 with 338 licensed beds in private rooms with space for families to stay with patients.

In Memoriam

It is with great sadness that we report the passing of Glen Braxton, one of our Sysmex associates. Glen joined Sysmex America in 2003 as a Health Systems Account Manager (HSAM) for the South Central Region, a position that he held at the time of his death. He will always be remembered for his dedication and commitment to our company and to his customers.

In honor of Glen's memory, Sysmex made a charitable contribution to the Alpha-1 Foundation (<http://www.alpha-1foundation.org>). The Alpha-1 Foundation is dedicated to providing the leadership and resources that will result in increased research, improved health, worldwide detection, and a cure for Alpha-1 Antitrypsin Deficiency.

Sysmex America Announces Executive Promotions

President & CEO of Sysmex America John Kershaw has expanded the areas of responsibilities for Ralph Taylor who will now serve as the company's Executive Vice President of Marketing, Business Development and Medical/Scientific Affairs. Bob Degnan will now have oversight of the company's commercial operations as the Executive Vice President of Commercial Operations. Andy Hay, in turn, will serve as Sysmex America's new Vice President of Sales.

"Each of these individuals has a proven track record within our organization. As such, we are expanding their areas of responsibilities to tap into their wealth of knowledge and expertise at levels that bring additional benefits to our customers and to the company overall. We look forward to their continued leadership," said Kershaw. All three executives will be located at Sysmex America's headquarters in Mundelein, Illinois.



Ralph Taylor – Executive Vice President, Marketing, Business Development and Medical/Scientific Affairs

Ralph, who joined Sysmex in 2007, will continue to lead all marketing and business development activities for Sysmex America and will play an expanded role championing marketing activities for Sysmex globally. Taylor has more than 20 years of experience with leading clinical diagnostic companies and health service organizations in the U.S. and Europe. He is a member of American Association of Clinical Chemistry.



Robert Degnan - Executive Vice President, Commercial Operations

In his new role, Degnan will lead the sales, technical service and operations functions for the Americas. Degnan, who has nearly 25 years of experience in clinical diagnostics, joined Sysmex in 2006 as Vice President of Sales. He has led Sysmex America's US sales and support efforts to successive plan achievement in four consecutive years, expanding the company's market share position.



Andy Hay - Vice President of Sales

As Vice President of Sales for Sysmex America, Andy's responsibilities now include oversight for all direct sales, distributor sales, corporate accounts, sales training and sales operational activities for the US Region. Andy's 20-year tenure with Sysmex includes sales, product marketing, and distribution management positions in the UK and US as well as a global responsibility in R & D. Andy is the recipient of the company's Presidential Award for Fiscal Year 2007.



250,000 Kwatts and counting...

Guided by the Sysmex Corporate Environmental Management Project, Sysmex America continues its steady path of environmental responsibility throughout its design and manufacturing to distribution and service of its products. “We embrace our role as good stewards of the environment at our business sites and within the communities in which we operate,” said John Kershaw, President & CEO, Sysmex America, Inc.

As evidenced by the company's ISO-14001 Environmental Management System Certification and by its employee outreach, Sysmex America has implemented a number of environmental protection activities for the benefit of our natural environment. Here are just a few....



- As part of the Smart Ideas® Program, Sysmex partnered with a group of companies along with Energy Investments and our local electric company, ComEd to install more energy-efficient fluorescent lighting. This helped reduce total consumption of electricity by more than 250,000 Kwatts. This is reflected in an average monthly savings of 27-30%.
- Sysmex replaced 'always on' light switches in bathrooms and break rooms with motion activated switches that automatically switch off when no one is in the room.
- Current recycling efforts at SAI result in ~ 2,400 lbs of paper, cans and plastic recycled each month.
- Sysmex Reagents America has increased its recycling efforts this year from 24 cubic yards to 40 cubic yards per week with no increase to the solid waste output.
- Sysmex America, Inc. has introduced more fuel-efficient and hybrid options to its fleet program. *(Did you know that if just 12 people were to switch to a hybrid, annual fuel consumption could be reduced by as much as 30,000 gallons per year? With today's average price for gasoline across the U.S. at \$3.00, that's a savings of \$90,000, not to mention the positive impact of reducing carbon footprint.)*
- Since 2008, Sysmex America, Inc. associate volunteers pick up trash 4 times a year on the main road in front of Sysmex America, Inc. headquarters through the Adopt-A-Highway program.
- In December 2009, Sysmex America, Inc. and Sysmex Reagents America passed the ISO-14001 Environmental Management System audit.



Maggie Daniels to Lead Sysmex Corporate Accounts Team

As Sysmex America's new Senior Director of Corporate Accounts,

Maggie Daniels will lead a team of directors, corporate account executives and corporate contract analysts responsible for oversight of Integrated Healthcare Networks (IHNs), Federal Government Accounts, Commercial Reference Laboratories and Blood Centers.

Maggie joined Sysmex in 2007 as an Account Executive responsible for business in select IHNs in the North Central and North East regions. She was promoted to Director in 2009 during which time she led a corporate accounts team focused on IHN/VISN and GPOs. Maggie also led Sysmex's corporate initiative on cross-functional communication and collaboration through Spring 2010. Prior to joining Sysmex, Maggie worked in various sales capacities for Roche Diagnostics including Sales Training. Maggie has an MBA in Applied Management.

"In her new role Maggie will work with our corporate and customer stakeholders. We look forward to her leadership as she takes aim on maintaining and expanding our business within key areas of the IVD market, as well as, leveraging the value of our GPO contracts across all product lines," said Andy Hay, Vice President of Sales, Sysmex America, Inc.

Sysmex Spring 2011 Web-based Educational Conferences

This spring brings Sysmex America's series of web-based educational conferences that are free, easy to attend and accredited P.A.C.E. / Florida CEUs.

The Sysmex Spring Web-based Educational Conferences cover a variety of topics supporting one's professional development including the art of managing your boss to a real hematology case study that provides useful "tools" for validating abnormal results.

So mark your calendar and join us for any-or all-of our complimentary web seminars relevant to your clinical laboratory. For more details or to register today, go to: www.sysmex.com/webinars

Webinar #2

How to Boss Your Boss: Strategies for Presenting Ideas to Upper Management

February 23, 2011, 12 Noon - 1PM CST

*Patrick J. O'Sullivan, MS, MT (ASCP) SBB
Laboratory Operations Director, Florida Hospital*

Did you ever present an idea to your boss and it was shot down, or he/she did not even listen? Are they a "jerk" or is it something you did wrong? Explore what is important to your managers at your place of business. Learn how understanding your "boss" can help you be more effective in presenting ideas and solutions to problems. Learn when to talk and how to frame what you want to say. Learn how to work within the system to achieve goals that can help your organization.

OBJECTIVES:

- Formulate strategies in communications with managers and supervisors.
- Recognize the priorities and pressures of the next level of management.
- Present ideas in a meaningful way to achieve success.



**Keep Your Lab Skills
Up To Date**

*Sysmex Spring 2011
Web-based Educational
Conferences*

Webinar #3

Paroxysmal Nocturnal Hemoglobinuria - A Guide to Understanding this Complement - Induced Intravascular Hemolytic Anemia
March 23, 2011, 12 Noon - 1PM CST

*Barbara Burch, MHA,MT(ASCP)
Laboratory Manager, NYU Clinical Cancer Center*

Paroxysmal Nocturnal Hemoglobinuria (PNH) is a rare, acquired genetic disease that remains a conundrum for laboratorians today. New technologies and diagnostic methods allow for earlier diagnosis and treatment and better outcomes. This session will provide a general review of the PNH disease mechanism and review actual patient cases from diagnosis to treatment.

OBJECTIVES:

- Describe the disease mechanism for PNH.
- List three (3) tests that are essential for the diagnosis of PNH.
- Explain the impact of PNH on routine laboratory testing

Webinar #4

Hematology Case Studies: Abnormal Results vs. Spurious Results: Now What Do We Do?
April 20, 2011, 12 Noon - 1PM CST

*Jerelyn Walters, SH(ASCP)
Supervisor, Esoteric Testing, Aurora Clinical Laboratories*

Most abnormal results in the hematology lab are easy to confirm, validate and report to the physician. But what happens when you obtain a result that you know is abnormal, and you just don't know what steps to take next. This webinar will discuss how to identify spurious results from those that contain true abnormal pathologies. Case studies will be used to illustrate tips and techniques for how to deal with hematology samples that contain abnormal cells and interfering substances.

OBJECTIVES:

- Differentiate spurious results from true abnormal pathologies.
- Identify in-vivo causes of spurious results.
- Resolve spurious results with alternative methods.

Imagine This: Automated Cell Image Analysis for Any Size Lab

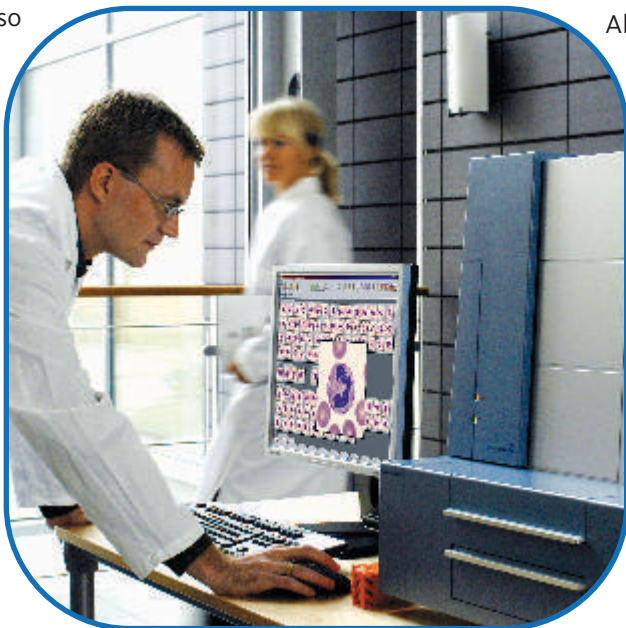
“What do you think this cell is?” says a technologist to a colleague. This is a question asked thousands of times a day in hematology departments across the country. Ask two colleagues. You may get two opinions.

But over the last several years, large and mid-size hematology departments have benefited from the time savings, labor savings and enhanced classification standardization provided by automated cell image analysis systems. Laboratories with these types of instruments also have an embedded learning center for teaching multiple staff members white and red cell morphology and gauging the adequacy of platelets to promote standardization in the performance of differentials. With the medical technologist shortage and the need for cross-training, hematology departments simply cannot have technologists “tethered” to a microscope, and the number of skilled technologists able to perform abnormal diffs is far fewer today.

Standardization of the white cell differential may be the most important contribution these systems have made for large and mid-size institutions. The development of cell imaging analysis software deployed on an automated platform designed for hematology departments is like having the same technologist perform all of the differentials requested.

Imagine being able to see all 100 white cells (or your choice of number) altogether on a single monitor at exceptional resolution. Simply stated, the instrument automatically locates and classifies white cells across pre-classified WBC categories. It also “comments” on red cell morphology and provides a platelet estimate. The technologist then agrees or disagrees with the classification.

If in agreement, results are released. If not, the technologist simply edits the classification and releases results. All results are stored digitally and are quickly accessible for review purposes. Even at the individual cell level you can access a patient's image history. Automating the white cell differential on a dedicated imaging instrument was inevitable, particularly with the shortage of medical technologists. But digital imaging in medicine is not new. Image analysis software first appeared in the radiology department some 20 years ago. Fuji Medical introduced computed (digital) radiography and the concept of “soft copy” diagnosis was born. No more film, no more chemicals, no light boxes, and best of all, no lost films.



All x-rays would be read on monitors that resided not only in the radiology department, but throughout the hospital system. Images were stored digitally and were quickly accessed by the institution's PACS System.

Years ago, this type of automation for the hematology laboratory was perceived as a “replacement” for a technologist, although that was not the case. Today these instruments are looked upon as “assistants” that can save the department much time, improve turnaround time, enhance productivity, interface with the LIS – all the benefits that come with a fully automated, walk-away platform.

Sysmex America offers a choice of instruments to cover any size workload. Throughput in a high volume setting can be as much as 35 slides/hour using the CellaVision® DM96, which can analyze cerebral spinal fluid (CSF), pleural fluid or synovial fluid in addition to blood smears. A mid-volume instrument, the CellaVision® DM1200, can handle 20 slides/hour. A newly available instrument, called the MEDICA EasyCell® *assistant*, has been expressly designed for a lower volume lab and processes approximately 12 slides/hour.



The EasyCell *assistant* is a unique instrument in that it is an automated platform designed for *low volumes*.

It is a compact, space-saving unit that has the features typically associated with high throughput platforms, such as automatic slide loading, walk-away automation, stat interrupt, bi-directional LIS interface and archival capability to CD.

The instrument also highlights unknown and borderline cells for presentation to the technologist when they are present on the smear. Hematology supervisors and pathologists benefit from the on-board education system to standardize the ways in which technologists classify

cells across several different laboratory sites, including satellite and clinic-based labs. This is particularly helpful when generalist technologists are rotating through departments and may be one of the biggest

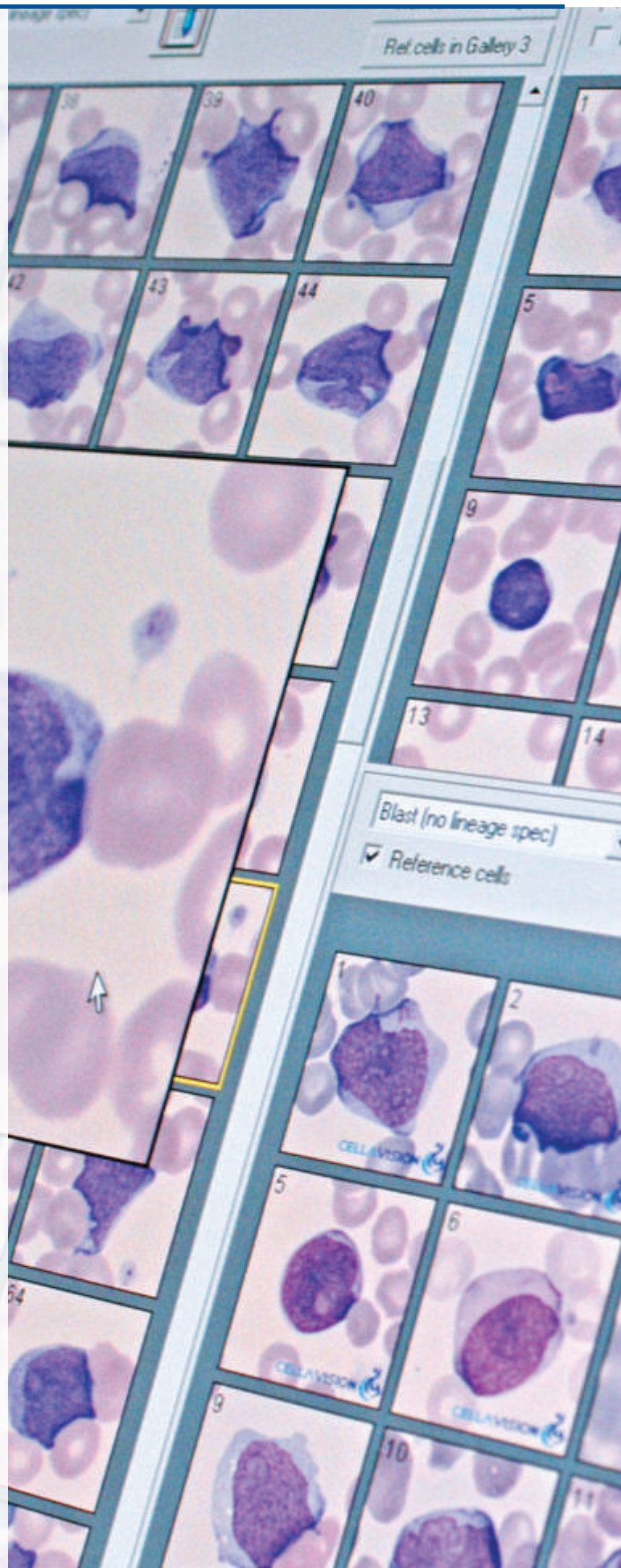


benefits: training personnel and the ability to share images among technologists, pathologists, hematologists and house staff in the same or affiliated laboratories. With the CellaVision DM-Series, the laboratory has the option to customize on-board libraries and to use an additional competency software. So the next time you want to say "What do you think this cell is?" You can get an expert opinion, even if your expert is off-site.

Cell Image Analysis systems provide the opportunity for enhanced collaboration with pathology and provide clinicians with access to patient images. This technology also allows morphology expertise to be located in a centralized location to which satellite labs would have access for expert reviews, particularly on shifts being staffed by generalist technologists.



Automated cell image analysis for hematology has taken decades to refine. But fortunately the technology has peaked along with the demand for these systems. For many hematology laboratories, these systems are helping to ensure the integrity of the white cell differential to the same level of confidence as the rest of the Complete Blood Count.



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