Restructuring of esoteric divisions continues

In February 2014, Dr. Gregory Clark, the new vice president of the National Esoteric Reference Laboratory (NRL) at PAML, set about restructuring the specialized testing services within the NRL. His goal was to create a full-service esoteric laboratory with a focus on volume growth, increasing the breadth of laboratory testing, and subsequently reducing the number of tests sent out to other referral laboratories.

One of the first steps Dr. Clark took towards his goal was to start consolidating testing methodologies and equipment. This involved creating a new Separation Science laboratory for all LC-MS/MS testing, which used to be performed in both the Toxicology and BioAnalytics laboratories. By creating the new laboratory, the NRL team was able to optimize workflow, increase productivity, and reduce turnaround time (TAT). It also allowed lab technologists to make better use of their skills and boost competencies.

Continuing the redeployment of the NRL, in June 2014, Dr. Clark restructured the Analysis Center, which included Chemistry, Immunochemistry, Immunology, and Special Immunology. As part of the restructuring, the manager’s position was divided to create two dedicated department heads. Pat Burke was tasked with heading up the Core Lab and Kevin Geibel was tasked with heading up the Esoteric Lab.

As Core Lab Manager, Pat Burke oversees high volume, highly automated, continuous flow testing on the Siemens LabCell, Advia 2400s, and Siemens Centaurs. In addition, several stand-alone analyzers complete the Core Lab testing equipment, including the Siemens Immulite, Beckman Dxl, BioRad BioPlex and IFA/DFA, Trinity Ultra 2, and Polymedco IFOBT. New testing equipment includes the Diasorin Liaison XL, a random access analyzer, which will replace some batch testing with continuous flow testing. Converting batch testing to continuous flow testing generally improves TAT, increases efficiency in the department, and allows staff to move more freely from analyzer to analyzer during testing. Added benefits include smaller sample volumes.

Left to right: Dr. Greg Clark, Pat Burke, and Kevin Geibel

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**Advancements in Celiac Disease**

*See Page 2*

**Virology/Molecular Technical Supervisor**

*See Page 4*

**Ebola Readiness Resources**

*See Page 6*

**Aldosterone Screening**

*See Page 8*
Celiac disease is an autoimmune disorder that affects the small intestine, leading to gastrointestinal (GI) discomfort or distress. It is an immune-mediated disorder triggered by exposure to specific dietary proteins (glutens) in wheat, barley, and rye, that affects nearly three million Americans. Onset of symptoms can occur any time from childhood to adulthood and can be linked to a stressful life event in some instances. Celiac disease is also associated with non-GI symptoms such as iron deficiency, bone or joint pain, arthritis, depression or anxiety, bone loss or osteoporosis, tingling numbness in hands and feet, seizures, erratic menstrual periods, dermatitis herpetiformis, and mouth sores. It can also cause malnutrition, especially in children. Chronic fatigue, discomfort, and pain are also important components in seeking a diagnosis, so that treatment options can be explored.

PAML offers a variety of tests (see order codes in right-hand column) to aid in the diagnosis of celiac disease, from panels to individual testing. A definitive diagnosis of celiac disease requires a jejunal biopsy to verify villous atrophy. Given the invasive nature of this procedure, serum screening has been employed to identify the higher risk patients.

Celiac disease is closely associated with IgA and IgG antibodies to the enzyme tissue transglutaminase (tTG). Current screening recommendations involve assessment of total IgA levels in the individual. IgA-tTG testing has replaced the previous screening for gliadin IgA antibody as the initial and primary screening test. If the patient has normal IgA levels, then IgA-directed tissue transglutaminase (IgA-tTG) screening would be most appropriate. tTG antibody assays are now considered the most sensitive and specific serologic tests for celiac disease. PAML offers a rapid and reliable enzyme immunoassay for tTG antibodies (IgA and IgG). tTG antibodies are likely identical to so-called endomysial antibodies, which are detectable by indirect immunofluorescence. The latter is a good test, but more subject to interpretation than the immunoassay used for tTG antibodies. Both of these tests are superior to the older gliadin and reticulin antibody tests.

Anti-gliadin IgA and/or Anti-endomysial (EMA) testing is utilized in weakly positive results or as confirmation of the tTG result. EMA is a sensitive and specific assay, but it is more subjective, resulting in less usage in the diagnosis algorithm. EMA and anti-gliadin confirmatory testing may be more desirable before initiating HLA DNA sequencing testing and invasive colon biopsy.

In rare instances, a patient is IgA deficient, which occurs in 2-3% of the celiac population. In this case, it is recommended that IgG-directed tissue transglutaminase (IgG-tTG) screening be performed with confirmatory testing on a weak positive patient by an anti-gliadin IgG antibody assay.

PAML and Cleveland Clinic Laboratories finalize collaborated test menu modifications

PAML and Cleveland Clinic Laboratories have signed an agreement in support of their announced June 2013 strategic collaboration, with test menu modifications that will result in more efficient delivery of care. The two laboratories have complementary skills and both share a strong commitment to quality, service, and outstanding patient care. Together, they will work on improving the quality and efficiency of laboratory services as it relates to better therapeutic decision making.

This agreement follows months of discussion focused on leveraging their combined resources to proactively address the evolving needs of health-care delivery in the United States. “We are pleased to have finalized these agreements with Cleveland Clinic,” said Francisco R. Velázquez, M.D., S.M., president and chief executive officer of PAML, LLC and PAML Ventures. “We are perfect healthcare partners because of our shared values, history of innovation, and strong leadership in quality and service. It’s all about forging alliances in the age of healthcare reform. We are excited to harness the energy of our two laboratories to streamline the delivery of healthcare services and capitalize on the increasing needs of the integrated care market.”

ORDER CODES:

- TTGIGA: Tissue Transglutaminase AB IgA
- TTGIGG: Tissue Transglutaminase AB IgG
- CELPAN: Celiac Panel Basic
- CELPEX: Celiac Panel Extended
- CELPED: Celiac Profile Pediatric Basic
- CELPRO: Celiac Profile Peds, Extended

Advancements in celiac disease testing

- Celiac Disease

- Normal

- Damaged

- Celiac Disease

- Tissue Transglutaminase AB IgA

- Tissue Transglutaminase AB IgG

- Celiac Panel Basic

- Celiac Panel Extended

- Celiac Profile Pediatric Basic

- Celiac Profile Peds, Extended
Restructuring of esoteric testing divisions

greater sensitivity, and the elimination of special RIA licensing and fees for hazardous waste disposal. Affected tests include Aldosterone, CMV, EBV, TOXO, Lyme, Rubella IgM, Measles, Mumps, VZV, and Herpes 1 and 2.

As Esoteric Lab Manager, Kevin Geibel oversees esoteric testing, which is usually the lower volume testing, stand-alone analyzers, and batch testing for Immunology and Special Immunology. Analyzers within his area include the Inova DSX and QUANTA-Lysers, Gold Standard’s Thunderbolt, Siemens’ BNII, the Immucor Neo and Echo (Blood Banking). Other supported testing includes protein electrophoresis, viscosity, RIA, ANCA, and allergy testing. Kevin is also moving additional batch testing from other EIA/ELISA platforms to the Liaison XL. His newest analyzer, the Thunderbolt, will be used for EIA testing, including free testosterone—for which the RIA method has been discontinued. “It is critical as we move forward, that we create synergies within the testing areas, maximizing our expertise and resources,” stated Dr. Clark. The changes he has made at NRL have streamlined testing processes, improved efficiency, increased productivity, and made it possible for the laboratory to perform more complex testing in-house. Additionally, the laboratory is expanding its expertise across multiple methodologies and building more robust automation processes. “We will continue to enhance our esoteric capabilities,” said Dr. Clark. “PAML is providing its clients with a broader range of complex and specialized molecular and gene-based testing, and we have the expertise to back it up. We are positioned to have substantial growth over the next few years.”

Carmen L. Wiley, PhD, DABCC, FACC, scientific director for PAML, has been elected to the board of directors of the American Association for Clinical Chemistry (AACC). An international medical society with over 50,000 members, AACC is dedicated to achieving better health through laboratory medicine. Since 1948, the AACC has worked to advance the common interests of the field, providing programs that advance scientific collaboration, knowledge, expertise, and innovation.

Dr. Wiley has been a long-time, active member of AACC at both the local and national level. She has served a term as chair of the 2014 AACC Annual Meeting Organizing Committee, has been a member of the editorial board for Lab Tests Online for five years, and serves as the Pacific Northwest Section’s delegate in AACC’s House of Delegates.

As the Scientific Director for PAML, Dr. Wiley oversees all aspects of PAML’s research and development program, while also working with a team to evaluate and deploy new tests, technologies, and instrumentation. “It is an honor to be elected to this position,” said Dr. Wiley. “I look forward to working with the 10 members of the AACC Board of Directors. This is a challenging time to be working in healthcare and laboratory medicine. I look forward to working with the other board members to help AACC continue to adapt to the dynamic healthcare field.” She will be serving a three-year term on the board.

Dr. Wiley earned a doctorate in Organic Chemistry from the University of Washington (Seattle, WA) in 1999. From 1999 to 2001, she was a postdoctoral fellow in Clinical Chemistry at the Mayo Clinic (Rochester, MN). She is board certified by ABCC and a Fellow of the NACB. She was the head of Clinical Chemistry, Division of Laboratory Medicine and Pathology at the Marshfield Clinic (Marshfield, WI) from August 2001 through March 2009. Prior to joining PAML in July 2013, Dr. Wiley was the co-director of Chemistry and Immunology and point-of-care testing at Providence Health and Services, Sacred Heart Medical Center and Children’s Hospital.

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Gold Standards Thunderbolt
New virology and molecular technical supervisor named David Bina

The field of molecular diagnostics is expanding rapidly because it provides faster results with higher sensitivity than traditional methods, according to David Bina, PAML’s new virology and molecular technical supervisor. David comes to PAML after spending 20 years as a virologist at the Milwaukee Health Department in Wisconsin and as a medical technologist (med tech) in a Wisconsin hospital laboratory. A graduate of the University of Wisconsin-La Crosse, he obtained a bachelor’s of science degree in Microbiology and Medical Technology, and a master’s degree in Business Administration.

“My work at the Milwaukee Health Department and as a med tech provided a great foundation for my career,” stated David. “I learned how local public health departments fit alongside local hospitals and clinics, state labs, and the CDC. I also learned that rapid results are critical. That’s why molecular testing has been so instrumental in the improvement of patient care today.”

“There are innovations in molecular testing happening every day,” indicated David. “Here at PAML, we are changing our instruments and assays on a continual basis to make sure we are providing our clients with the most efficient and effective results. Recently, we changed to a new HCV genotyping assay (HCVGTY) which allows for better differentiation of the various genotypes. At the same time, we upgraded to a better version of our HCV viral load assay (HCVRQT or HCVPGT which will reflex to include the genotyping) with a lower limit of detection. Now patients can get the right medication based on their genotype and we can monitor their viral load down to near zero. We have also expanded the sample types that are acceptable for testing. For instance, our Respiratory Virus Panel (RVPCR) is a powerful tool for the detection of thirteen different viruses in one sample. However, it was restricted to nasopharyngeal swabs, so we worked with the vendor to validate throat swabs, BALs, and bronchial washes as well. This allows us to test some of the more commonly collected samples on the most critical patients.”

David and his wife Angela have two children, Nathan (13) and Emily (9). “We have had a lot of fun exploring the area, especially all of the lakes and parks,” said David. “In many ways, Washington feels a lot like Wisconsin...good people, good schools, and lots of open areas to discover. The weather has been a pleasant surprise too, although we haven’t been here for a full winter yet.”

David does miss one thing about Wisconsin... “I’m a big sports fan and it’s obviously harder to follow all of the teams. Fortunately, we’ve met several fellow Packer and Badger fans and found some great places to catch the games.”

Arthritis panel enhancements

**Cyclic Citru-What?**

Rheumatoid arthritis (RA) is a debilitating disease that can be hard to detect early in the early stages. One of the telltale signs of RA is an antibody response to rheumatoid factor (RF) and autoantibody developed in the course of RA. However, this testing can have its limitations. Traditional RF detection can be less informative in patients suffering from Systemic Lupus Erythematosus, Sjögren syndrome, hepatitis C and other autoimmune and chronic infections. This lack of specificity has always lead to difficulties in diagnosing patients with RA. Supportive diagnostic testing is important in a quick, accurate diagnosis—enter anti-Cyclic Citrullinated Peptide antibody (anti-CCP) into the diagnostic space.

Anti-CCP has emerged as an improvement in the diagnosis and detection of RA. It is present in 69% to 83% of patients with RA, and with approximately 94% specificity. One of the key benefits of including anti-CCP is its ability to detect RA in the very early stages, in 50-60% of RA patients—before the presence of RF antibodies.

According to Jaskowski, T. et al. (J. Rheum. 2010), patients who are RF negative—but anti-CCP positive—are very likely to develop RA. The best means to identify this subset of RA patients is with anti-CCP testing, specifically CCP3. PAML is currently using the CCP3 platform. Anti-CCP also supports RF screening for a more definitive diagnosis—especially in cases of confounding conditions, which can elevate RF levels.

**NEW ENHANCEMENTS**

PAML recently made an enhancement to two of our Arthritis panels to include anti-CCP. Upon review of our arthritis test offering, we felt it necessary to include anti-CCP, based on the current documentation regarding the significance of this test in conjunction with rheumatoid factor (RF). According to the updated 2010 American College of Rheumatology and European League Against Rheumatism classification criteria for rheumatoid arthritis (RA), both RF and anti-CCP should be tested for those patients suspected of RA.

**ORDER CODES:**

RAPNL and ARTHP
Symbiodx celebrates official launch at CAP’14

**CAP ‘14**
Symbiodx, a joint venture between PAML and CellNetix, had its official launch in September 2014 at CAP ‘14. With the conference opening in the exhibit hall Sunday night, our sales team flanked by CEO Dr. Don Howard, Dr. Anna Berry and Dr. Danbin Xu gathered at the booth to greet attendees as they sipped on wine and enjoyed hors d’oeuvres. The heavy foot traffic to the booth that night would prove to be the norm and not the exception as the conference continued.

Monday’s program included a full day at the booth and a Next Generation Sequencing (NGS) presentation by Dr. Berry in the ‘Meet the Experts’ Pavilion. Dr. Berry’s presentation introduced NGS as an additional tool for the diagnosis and treatment of cancer. For more information, please view her webinar: [http://lnk.nu/pamlevents.webex.com/1cjje.do](http://lnk.nu/pamlevents.webex.com/1cjje.do)

On Tuesday, there was another presentation by Dr. Berry with CAP exhibits winding down to a close. The overall event was a success for Symbiodx, as we gained industry exposure, gathered significant leads, and introduced our Molecular Diagnostic NGS pathology experts Dr. Berry and Dr. Xu.

**AMP ‘14**
Symbiodx will be attending AMP ‘14, the annual meeting held by the Association of Molecular Pathology. This year’s meeting will be held November 12-15, 2014, at the Gaylord National Resort & Convention Center in National Harbor, MD. AMP will have over 1,800 attendees, who are considered experts in the fields of genetic disorders, hematopathology, infectious diseases, and solid tumors.

Our goals for this meeting are the continued promotion of Symbiodx as an anatomical and molecular diagnostics focused company, and the showcasing of our next generation sequencing technology, as well as our subspecialty consulting services and anatomic pathology testing suite. This meeting will present more technical and clinical utility conversations for us as the knowledge of our technologies is more understood by AMP attendees than perhaps it is at other conferences. To complement our tradeshow booth, Dr. Anna Berry will be discussing the design and validation of our Symgene 68 gene NGS Cancer Panel assay at her workshop on November 12, 2014 at 9:00 a.m. The workshop will detail our experiences implementing this panel into physician clinical practice settings. Dr. Berry will also present case studies which help demonstrate the value of NGS for diagnosis and treatment selection.

If you are planning to attend the AMP’14 conference, we look forward to having you stop by our booth (#1102) to meet Dr. Berry, Dr. Xu, and our sales staff in the exhibit hall. ♡

**What Makes Us Different?**
- One lab for all oncology/pathology testing
- Subspecialty Expertise—Over 50 pathology experts, with 25 subspecialty areas of expertise
- Partnership Focus—Fill gaps and add value, enhancing your service offering
- Consultative Approach—Pathologists and technical leadership always available and supportive
- Technology—Secure web portal; Whole Slide Imaging capabilities for “Technical Only” cases

**FULL-SERVICE TEST MENU**
- Molecular—including a 68 Gene Next Generation Sequencing Panel
- Flow Cytometry
- Cytogenetics: Karyotyping, FISH, and Microarray
- Immunohistochemistry
- Subspecialized Pathologist-to-Pathologist consult service

**Symbiodx Sales Staff**

<table>
<thead>
<tr>
<th>Cara Santucci</th>
<th>Leanne Strope</th>
<th>Michael Larvin</th>
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<tbody>
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Symbiodx is pleased to announce that Michael Larvin has joined our sales staff as the area manager for the central United States territory. Michael comes to Symbiodx with a vast amount of industry knowledge, having spent the majority of his career working at the Cleveland Clinic Laboratories, Med Fusion, and Bostwick Laboratory. Michael’s proven track record of success strengthens our sales force and will help Symbiodx continue to grow.
New Tests

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<th>ORDER CODE</th>
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<td>TESTESTF</td>
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<td>ESTMCP</td>
<td>Estradiol (LCMSMS)</td>
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<tr>
<td>PANCEF</td>
<td>Pancreatic Elastase, Fecal</td>
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Respiratory Virus Panel by PCR

Test Code: RVPCR

In our February 2014 edition of the Esoteric Essentials, we introduced our Respiratory Virus Panel by PCR.

Effective September 17, 2014, we have validated 3 new specimen types:

- Bronchoalveolar Lavage (BAL)
- bronchial washes
- throat swabs in viral transport media

Molecular testing affords many advantages over DFA and viral culture, especially in the young, the immunocompromised and elderly patients. For more information about RVPCR, please refer to our test directory or contact your account representative.

Ebola Readiness Resources

PAML Resources:
The WSHA and DOH has created a webcast entitled "Ebola Readiness for Hospital and Staff" that can be viewed on the PAML website (www.paml.com) under our Education page.

CDC Resources:
"Interim Guidance Regarding Compliance with Select Agent Regulations for Laboratories Handling Patient Specimens that are Known or Suspected to Contain Ebola Virus"
http://www.cdc.gov/vhf/ebola/hcp/select-agent-regulations.html


World Health Organization:
Technical information, preparedness and response, infection control, patient care, laboratory, etc.

AMA Ebola Resource Center:

Your State Department of Health contact information is available on the internet; google for more specific Ebola details relating to your state.

PAML CEO appointed to WBBA Board of Directors

The Washington Biotechnology and Biomedical Association (WBBA) has appointed Francisco R. Velázquez, M.D., S.M., president and chief executive officer for PAML, LLC and PAML Ventures, to their board of directors. In making the announcement on behalf of the Washington Biotechnology and Biomedical Association (WBBA), Chris Rivera, president and CEO, said “we are very pleased to have recruited Dr. Velázquez, who represents the very best and most talented leadership to our already outstanding board. With his addition to the board, it reflects the diversity in the membership of the WBBA that include organizations in biotechnology, medical technology, global health, research, and academia.”

WBBA is Washington State’s life science trade association, serving over 600 member organizations. Members include organizations engaged in, or supportive of, the research, development and commercialization of life science technologies. WBBA’s mission is to support and help to grow Washington State’s life science ecosystem. The not-for-profit organization accomplishes their mission through advocacy, enterprise support and the enhancement of research collaboration. The employees, services and the efforts of the WBBA are fully funded through memberships (87% of which are tax deductible), sponsorships, and event registration fees. WBBA provides these services through representatives in Seattle, Olympia, Eastern Washington, and through coalition partners in Washington, DC.

“In joining our board, Dr. Velázquez also demonstrates the commitment that our state’s top leaders have in supporting the growth and innovation in Washington’s life science ecosystem,” Rivera added. “This is one of the most exciting times to be in the life science industry, as Washington is quickly becoming recognized for its global leadership position. Dr. Velázquez will add great value as we continue to support our mission, to help grow and support the life sciences in the state of Washington.”

Francisco R. Velázquez, M.D., S.M.
New director of supply chain management

Roy van Wormer, the new director of Supply Chain Management, comes to PAML from Pacific Northwest National Lab (Richland, WA), where he was the sustainability program manager, and developed the program from the ground up. "My team worked with partner countries around the globe to develop their capability to detect the illicit trafficking of nuclear material," indicated Roy. "We negotiated and awarded local maintenance contracts, developed a help desk, spare parts program, performance metrics, and policies and procedures to enable our staff of Project Managers to be more effective."

Roy has over 15 years of experience in Supply Chain Management. Prior to Pacific Northwest National Lab, he was employed by Bechtel Corporation, a worldwide engineering, construction, and project management company. While at Bechtel, he worked in various procurement roles, including buyer, cost/price analyst, contracts manager, and manager of compliance and procurement automation. He was also the maintenance contracts manager in Mississippi after Hurricane Katrina. During his tenure at Bechtel, Roy was trained and certified as a Six Sigma Black Belt and worked in that capacity for nearly three years.

As Director of Supply Chain Management, Roy has re-organized the department's management structure to create a more streamlined organization. PAML recently consolidated the distribution of supplies for PACLAB, CLA and KLS into the Spokane hub. This has greatly expanded the activity at the Spokane Distribution Center. The new focus is on driving efficiencies in distribution in order to take full advantage of the consolidation. He has hired a new distribution center manager for the expanded Spokane hub and has also hired many new people in procurement, distribution and at the national reference laboratory location in Spokane. Roy is also focused on quality control and is working on more visibility into our performance by putting in place more key metrics. In addition, he is re-evaluating Epicor and PAML's web-based ordering system to make sure the lab is utilizing the most effective tools in optimizing our supply chain.

Roy is a graduate of Washington State University and holds a bachelor's degree in Business and a master's degree in Business Administration. He and his wife, Jacque (a professor in Criminal Justice at WSU) have three children, Cade (16), Sophia (13), and Tucker (9). When asked about his hobbies, Roy indicated that he seems to spend most of his time driving his kids to and from sporting events and watching their extracurricular activities. When he is not doing that he enjoys waterfowl hunting with his boys and has also taught his children how to snowboard. "My oldest son can beat me down the mountain on the snowboard, but that is only because he is not afraid to die," laughed Roy.

As for the future, Roy is planning to adopt more of supply chain's best practices into PAML's supply chain management structure. "It is imperative that supply chain in every sector of healthcare adopt the practices that have been pioneered in other industries," said Roy. This includes adopting Lean and Six Sigma methodologies, cutting-edge inventory management, distribution, and web-based information systems that encompass the entire supply chain. "We have a greater need than ever for better system integration and timely access to our data, coupled with a data strategy that enables critical decision making." ✴

Fecal pancreatic elastase added to test menu

Stool. It is no one's favorite sample to work with, or around.

However, there is no question that it is a valuable sample in the diagnosis of a variety of illnesses. From testing for specific pathogens such as norovirus, Helicobacter pylori, or Giardia to indicators of Inflammatory Bowel Disease such as fecal Calprotectin and Lactoferrin, stool is the preferred sample.

PAML's Virology Department recently added fecal pancreatic elastase (PANCEF) to its test offerings. Pancreatic elastase or elastase-1 (EL1) is a serine protease synthesized by the acinar cells. Among its other characteristics, EL1 is stable during its passage through the intestinal tract. The fecal EL1 level then allows for the diagnosis, exclusion, and/or monitoring of pancreatic exocrine insufficiency which can be caused by chronic pancreatitis, cystic fibrosis, pancreatic tumors, cholelithiasis, insulin-dependent diabetes mellitus, Shwachman-Diamond syndrome, and other etiologies of pancreatic insufficiency.

It is a great alternative to the 72-hr fecal fat assay, and a time saving, non-invasive alternative to direct pancreatic stimulation tests. The test requires 1-5 grams of unpreserved/undiluted formed stool. A level of 100-200 μg elastase/gram of fecal matter is indicative of moderate pancreatic insufficiency while levels less than 100 μg elastase/gram would indicate severe pancreatic insufficiency. This is invaluable information for physicians and their patients, regardless of the source material. ✴
Aldosterone is a mineral corticoid steroid hormone produced by the adrenal cortex. It is involved in the regulation of blood pressure—by regulating the retention of sodium and water and the excretion of potassium by the kidneys. When it is deregulated, it leads to or indicates the potential for cardiovascular and kidney disease.

Aldosterone is used to assess the function of the adrenal cortex, and to identify causes of high or low blood pressure, muscle fatigue, or low potassium. Elevated levels of aldosterone can be associated with adrenal tumors or excess renin secretion by the kidneys. Low aldosterone levels can be associated with low levels of renin, indicating kidney dysfunction. For these reasons, aldosterone and renin are generally run together to determine the reason for the imbalance.

Aldosterone levels are used in conjunction with renin levels to differentially diagnose primary aldosteronism (Conn syndrome), secondary aldosteronism, and hypoaldosteronism. Conn syndrome is generally associated with elevated levels of aldosterone and low levels of renin, usually from benign adrenal tumors. Secondary aldosteronism is caused by physiologic effects outside of the adrenal glands. Hypoaldosteronism is caused by the adrenal glands not releasing sufficient aldosterone. This can be caused by adrenal insufficiency or low levels of renin. For these reasons, aldosterone is often measured in conjunction with renin.

Aldosterone levels are highest in the morning and vary throughout the day. Aldosterone levels can be affected by sodium intake, with high sodium intake associated with low aldosterone levels and low sodium intake associated with high aldosterone levels. In addition, aldosterone is affected by the body’s position, by stress, and by a variety of prescribed medications—so care should be taken on the blood draw and to get a complete clinical history.

PAML recently made changes to our Aldosterone test. The test change has resulted in overall improvement in our test offering in three ways:

- The new chemiluminescent method will improve the sensitivity of the assay and simplify the results reported.
- The methodology change has reduced our turnaround time from 2-5 days to 1-2 days.
- It has decreased the sample volume requirements from 2 mls to 0.75 mls.

ORDER CODES:
ALDOST (Aldosterone)
ALDREN (Aldosterone/Renin Ratio)