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a bi-monthly electronic newsletter for the veterinary community

WELCOME!

Welcome to the August 2003 issue of VetCom. In this month's issue, Dr Kramer will be discussing the importance of in-clinic diagnostic capabilities for managing avian and exotic patients.

We have been very pleased with the warm reception from, and growing number of, avian and exotic practitioners using the VetScan system!

In an effort to get a higher response level to our monthly clinical questions, we will send a gift package to the first 50 email responders to this month's "In Your Opinion" (see page 3)

Guerilla Marketing's Golden Rule #38:

The more you spy on your competitors, your industry, and yourself, the more opportunities you'll find to improve.

Entrepreneurs realize the

In the Trenches

Improved Management of Avian & Exotic Patients with In-Clinic Diagnostics

Marc H. Kramer, DVM

When dealing with sick avian and exotic animal patients, obtaining lab results immediately can determine the difference between success and failure with a case. Rapid sample processing and production of accurate results are crucial to a quick reliable diagnosis and initiation of appropriate therapy.

In-clinic testing is steadily gaining popularity as veterinary practices continue to recognize its tremendous value. For avian and exotic animals, the turnaround time from outside laboratories is often longer than these patients can afford. An immediate diagnosis

enormous significance of doing absolutely everything better than their competitors. But how can you be sure you're doing that? Easy, By Spying: Call a competitor clinic (you or a friend) to make a request or ask for information. See how you are treated. Then do the same at your own clinic...is your competitor doing anything better, faster, smarter??

Visit, or have a friend visit, a competitive clinic. Are they doing anything better? Better service, better environment, better marketing, better clients?? The best package of ideas comes partly from your own imagination and partly from spying on others. Spying is both inexpensive and informative. Relying only on your own imagination deprives you of an incredibly rich source of good ideas. And as with most marketing activities, spying should be practiced on a regular basis to be useful-at least twice a year.



aided by the in-clinic laboratory, during the initial 30-minute exam, allows the veterinarian to determine, within minutes, whether the patient requires hospitalization or outpatient treatment. The doctor can easily prescribe medication based on scientific conclusions, not speculation. As a result, the hospital is able to practice better medicine, provide a more effective emergency service, and overall provide superior, faster service.

Additionally, the in-house lab results offer an instant prognostic indicator. Most clients consider their pets valued family members. The sooner the animal can be diagnosed and the owner given a prognosis, the less anxiety the client feels waiting for test results. Whether the prognosis is good or bad, the in-house lab helps decrease the client's stress level by reducing wait time and ambiguity about their pet's fate, and replaces "educated

4 Ways you can do more than snoop:

1. Ordering: Order from yourself and a successful competitor. Keep an eagle eye out during the entire process, including follow-up marketing!
2. Visiting: Note all the differences in your competitors practice, especially the little things that win or lose clients.
3. Phoning: Call for information concentrating on the personality and attitude of the person answering the phone. Latent strengths and weaknesses lie in phone contacts.
4. Comparing: Compare your clinic with a competitors-service, pricing, packaging, people, selection, follow-up, signs, business practices, quality, marketing, post-sale attitude.

from:

Guerilla Marketing Excellence, The 50 Golden Rules for Small-Business Success, JC Levinson, Houghton Mifflin,

guesswork" with solid diagnostic capability. Especially with exotics that often present in critical condition, any means to expedite results is of paramount importance to a successful outcome.

Two extremely important components of blood testing in birds and exotics include the complete blood count (CBC) and biochemistry analysis. Together, these 2 pieces of data yield a comprehensive glimpse into the patient's state of health or disease.

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However, many of the commonly kept companion exotics are quite small compared to traditional species such as dogs and cats. Small body sizes restrict the veterinarian to withdrawal of small blood sample sizes, which can be a limiting factor for performing both the CBC and biochemistry analysis. Since the advent of the Abaxis VetScan® system, which requires only 0.1 cc of whole blood to run an entire panel of 12 analytes, testing even the smallest exotic patient has become a reality whereas this was not possible before.

A general rule of thumb for phlebotomy in avian and exotic patients is that 1 cc of blood can be safely removed per 100 grams of body weight. This equates to removal of 1% of a patient's body weight, or 10% of its total blood volume. For example, a parakeet weighing 30 grams can have 0.3 cc of blood taken; a parrot weighing 300 grams can have 3 cc of blood taken. Patient status must be taken into account; severely debilitated or anemic patients may not withstand phlebotomy (or even restraint) and should be handled with care. The VetScan® requirement for 0.1 cc of whole blood, along with 0.1 cc of blood being reserved for

the CBC, allows the practitioner the luxury of considering ancillary blood tests for patients as small as parakeets and even some canaries!

In birds, jugular venipuncture is the most accessible and reliable technique for obtaining adequate blood samples. A useful tip for this procedure involves entry of the needle with the bevel facing down. This approach has the following two advantages: 1) it allows one to "tent" up the blood vessel, allowing expansion of the jugular vein and engorgement of the vessel; and 2) there is less risk of puncturing the medial wall of the jugular, as the distance the needle must be inserted is comparatively less when the bevel is oriented down.

Alternate venipuncture sites include the basilic or ulnar vein (hematoma formation is likely, especially in awake patients, so prolonged pressure is needed in this location) and the medial metatarsal vein (prominent in pigeons and waterfowl). Toenail clips are generally discouraged as sample contamination can lead to altered biochemistry or DNA probe results and micro-clotting or hemolysis may occur.

Any practice dealing with avian

and exotic patients should be prepared to carry out proper diagnostics. Performing them in-house increases the value of these services and allows the veterinarian the chance to execute the fastest and best treatment. This not only protects the human-animal bond but also makes better business sense – clients pay more for better, faster service. Additionally, when the cost of materials and technician time are calculated, in-house diagnostics generally cost less than sending a sample to an outside laboratory. So don't just grab for the Baytril® when dealing with exotics, practice quality medicine with in-house diagnostics!

VetScan Avian-Reptilian Profile
clinical utility outline provided by:
Karen Rosenthal, DVM, MS,
ABVP-Avian
Director of Special Species
Medicine, Univ Pennsylvania

Albumin
Theoretically albumin concentration decreases with liver disease as the unhealthy liver can no longer produce sufficient quantities of albumin. Most likely, a bird will die before a low albumin concentration due to liver disease is appreciated. More likely, severe renal or intestinal disease will produce low albumin concentrations due to loss through disease. Finally, if the patient is dehydrated, the albumin

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Coming Conferences *We'll See You There!*

Central Veterinary Conference
Kansas City, MO
Aug 23-26

Association of Avian Veterinarians
Pittsburg, PA
Aug 25-29

Puerto Rico VMA
Ponce, PR
Aug 29-31

Florida VMA
Lake Buena Vista, FL
Sep 5-7

Colorado VMA
Aspen, CO
Sep 7-9

SouthWest Veterinary Symposium
Fort Worth, TX
Oct 3-5

Wild West Veterinary Conference
Reno, NV
Oct 8-11

Wisconsin VMA
Madison, WI
Oct 10-12

Events of Note

Lab & Lunch!

Abaxis & Milburn Distributions will be hosting a lab and lunch event at the Milburn facility in **Lexington, Kentucky** on Thursday, **August 21st**. Equine practitioners are invited to bring patient blood samples (chemistry & hematology) for immediate

testing while they enjoy a hosted luncheon courtesy of Abaxis & Milburn!

**Contact Frank Pickard at:
800-822-2947, ext. 1499**

for additional details.

Local Abaxis Representatives are available to present a one-hour, RACE accredited, presentation on the topic of in-clinic wellness programs and diagnostic testing for local veterinary meetings.

To request a speaker at your event, please contact your local representative (contact information available at: www.abaxis.com), or jenniferambra@abaxis.com

VetScan® News & Special Offers

Be sure to email your response to our monthly *In Your Opinion* question! The first 50 responses will receive a free gift package (be sure to include your mailing address!)

FREE CE!!

RACE accredited programs available correspondence:

Practitioners Perspectives on In-Clinic Wellness Programs
(1 CEU)

Canine Hypothyroidism
(1 CEU)

Basic Hematology
(2 CEU)

to order a CE program, or request a topic for a future program, email:
jenniferambra@abaxis.com

In Your Opinion

From our June Issue:

Routine use for PT, PTT measures appears to be limited almost entirely to emergency clinics and emergency situations-very few responders would consider coagulation testing as part of a pre-anesthetic panel.

Abaxis Contact Information

1-800-822-2947

VetCom Issues

subscribe, unsubscribe questions, comments
Pam Conboy, ext. 6604
pamconboy@abaxis.com

Come See Us at CVC

The Central Veterinary Conference is always a big event for us, so stop by for a visit and a few take-home gifts!

Booth 125-127

COLLEAGUE REFERRALS

Don't forget to send us your colleague referrals- vets you believe can benefit from the VetScan system.

We will send you a FREE 10-pack of your choice of rotors for each referral who ultimately becomes a VetScan customer!

to request CE programs, pamphlets and other tools, forward referrals, or make suggestions:
email:

pamconboy@abaxis.com

fax:

510-217-6664

August's Question:

In your opinion,

What are the key factors when evaluating an ultrasound instrument for use in your practice?

Does your clinic currently own an ultrasound instrument? If so, how often is it utilized? If not, is your clinic considering an ultrasound purchase in the next 12 months?

Technical Service EXT 2

technical issues, training rotor credits, software queries
Linda Lang, Manager

Customer Service EXT 3

direct orders, local representative and VetScan distributor information
Valerie Campbell, Manager

New VetScan Software!

We are scheduling a new VetScan software upgrade in September 2003. As always, the upgrades are free and will provide our customers with our latest improvements.

Keep an eye out for your new software package, and don't forget to return your old software card in the postage-paid return mailer!!

Need a Speaker at Your Local VMA Meeting?

We are always interested in supporting local veterinary associations with educational programs and various sponsorships. Please contact your local Abaxis representative, or me, if you would like to discuss the options!
pamconboy@abaxis.com

Be one of the first 50 to reply to this month's question and get a free gift!

Got a Question for the Lab? Send it in....

Email me with your replies and queries:

pamconboy@abaxis.com

SALES

Eastern Area Sales Director
Marty Mulroy, ext. 1500

Central Area Sales Director
Randy Knick, ext. 1509

Western Area Sales Director
John Barone, ext. 1578



user thoughts on VetScan

*"Our busy practice relies tremendously on the accuracy, speed and comprehensive analyses of our VetScan systems. The Abaxis approach to in-clinic diagnostics is the preferred method by far, compared to single-test systems we have utilized in the past."
Dan Brod, DVM
DeerCreek Animal Hospital, CO*

Authorized VetScan® Distributors

<u>Distributor</u>	<u>Telephone</u>
AVSC-American Veterinary Supply	800-869-2510
Barber	800-552-5698
DVM Resources	877-828-1026
Great Western Animal Health Supply	505-822-0999
IVESCO-Iowa Veterinary Supply	800 831-4828
Merritt	800-845-0411
Miller Veterinary Supply	800-880-1920
Milburn Distributions	800-279-6452
Nelson	800-843-3322
Penn Vet	800 233-0210
TW Medical	888 787-4483
VMS-Veterinary Medical Supply	800-533-8674
Vetpo	800-253-7280
Western Medical Supply	800-242-4415

concentration may increase. Currently, with the dye method used by chemistry analyzers, albumin concentration is an estimate and other methods to measure albumin are necessary if more exacting results are required.

AST

In birds, and it is thought in most reptiles, AST is found most abundantly in the liver and muscle. With damage to either or both systems, the AST concentration increases. Isoenzymes of AST have not been elucidated in reptiles or birds, so it is impossible to discern, just from examining the AST concentration, whether there is liver or muscle damage or both.

BUN

There is some thought that an increase in the BUN concentration may indicate dehydration in avian patients. More research needs to be undertaken to determine the usefulness of this enzyme in birds. In some species of reptiles, probably the more aquatic species, BUN may be a reliable indicator of kidney disease.

Calcium

In reproductively active female birds and reptiles, calcium concentration will increase above the reference range for adult animals. This indicates that calcium is being mobilized for egg production and appropriate measures should be taken to ensure adequate dietary calcium. If a bird or reptile is reproductively active, and the calcium concentration is low or in the adult normal range, this indicates that dietary calcium is lacking. Also, in young animals, inadequate calcium and/or vitamin D uptake will be evident as low calcium concentrations. In most birds and reptiles, a low calcium concentration may also indicate renal disease. Even in the face of severe calcium deficiency, total blood calcium may be in the normal range due to tight regulatory control.

CPK

Muscle damage or loss causes CPK release into the blood. Therefore, increases in CPK can be seen with intramuscular injections, weight loss, or rough handling. The most important value of CPK, though, is when it is used in conjunction with AST. If AST is elevated but CPK is not, most likely liver disease is present. If both AST and CPK are elevated either muscle disease by itself is present or both muscle disease and liver disease are present. If just CPK is elevated, most likely muscle trauma is present or AST has not elevated yet.

Globulin

Globulin concentration will increase with dehydration. It should also increase with antigenic stimulation. Since globulin is calculated from the TP and albumin concentrations and the albumin concentration is at best an estimate, it is recommended to examine other methods of measuring globulin if precise concentrations are necessary.

Glucose

Blood glucose concentration will decrease with severe liver disease. Also, sepsis can decrease the blood glucose concentration. If the patient is anorexic and has poor energy stores, the glucose concentration may decrease. Finally, if pancreatic disease is present, the blood glucose concentration can either increase or decrease depending on the disease process. The most common reason, though, for a reported decrease in blood glucose concentration is a sample left too long before it is analyzed and the blood cells utilizing the available glucose in the sample.

K

An increase in the potassium concentration is an indicator of cell lysis. Potassium is also an indicator of fluid balance and helps direct fluid therapy for in-house patients.



Check Out Our
Web Site

www.abaxis.com

Na

Sodium is an indicator of fluid balance and can be used to direct fluid therapy. An elevated sodium concentration may be an indicator of dehydration.

Phos

In birds and reptiles, it appears that phosphorus concentration increases when renal disease is present. Therefore, an elevated uric acid and an elevated phosphorus are a clear indication of renal disease. In iguanas, an elevated phosphorus concentration can be seen without a high uric acid concentration. In these iguanas, calcium concentration is either low normal or below normal range. The cause for these blood abnormalities in iguanas has yet to be elucidated. Phosphorus concentration increases can also indicate nutritional disease. Finally, phosphorus concentration is an indicator of fluid balance and can be used to direct fluid therapy.

TP

Total protein will decrease due to decreased production with severe, chronic liver disease. Total protein will decrease due to loss due to gastrointestinal or kidney disease. Total protein increases with dehydration.

UA

Uric acid is the best indicator of renal health in almost all birds and reptiles. As disease progresses the uric acid concentration rises in the blood.

Additional Avian & Exotic Diagnostics Resources

Laboratory Medicine, Avian & Exotic Pets, Alan Fudge, WB Saunders
Avian Hematology & Cytology
Terry Campbell, Iowa State University Press