

NATIONWIDE LABORATORIES SPRING/ SUMMER NEWSLETTER

PROUD OF THE PAST, COMMITTED TO THE FUTURE

VETPRESS

Mammary tumours in dogs and cats by
Sandra Dawson

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Soft tissue sarcoma: case study by Alina
Bodnariu and Sandra Dawson

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Canine tick-borne diseases in Europe
by Rita Ornelas

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**What do I need to know about allergy
testing?** by Stacey Newton

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**Investigation of calcium disorders and
sample preparation** by Stacey Newton

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**Sampling and packaging techniques for
histology samples, and how to deal
with unusual biopsy specimens** by

Sandra Dawson

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**Immunochemistry at NationWide
Laboratories** by Sandra Dawson

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**Age-related changes in canine and
feline clinical pathology, and how to
interpret them** by Helen Campbell

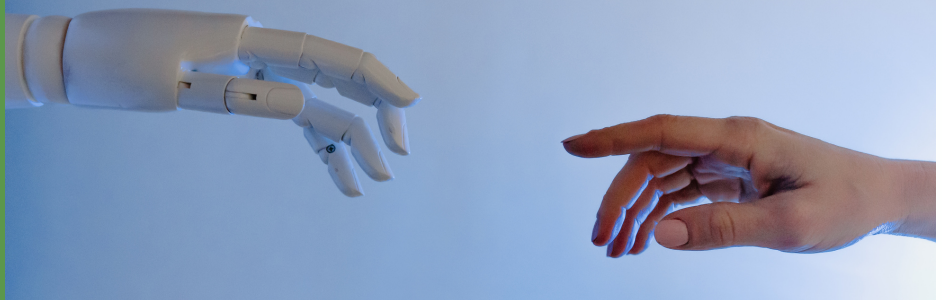
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**Zoonotic diseases in companion
animals in the UK** by Rita Figueiredo
Ornelas, Helen Campbell, Alina Bodnariu
and Sandra Dawson

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Canine vector-borne diseases in Europe
by Rita Figueiredo Ornelas

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Message from David Charvill

Dear friends,

Welcome to our newsletter. I'd like to thank everyone who came to see us at BSAVA in Manchester this spring. We will also be exhibiting at the London Vet Show and we will welcome an opportunity to speak to you there. As a company we are committed to making a positive impact on animal health by offering innovative products, technology and laboratory services to your veterinary practice. Our team of in-house and associate pathologists, veterinary and biomedical scientists are always here to answer your questions and help with the most challenging and complex cases. Our scientific expertise is matched only by our customer dedication. We run a customer feedback programme which helps us to better understand your requirements and constantly improve our services. Thanks to your input, we have introduced new tests and profiles, including SDMA assay with results available the same day. We are also working on the new online customer portal which will be officially launched at the London Vet Show. We are migrating to the new courier ordering system via the E-schedule app to make the process easier for you. Digital pathology is another project which will go live in the nearest future. As a centre of educational excellence, we are offering the vet community a wide range of free and reasonably priced CPD and working with veterinary schools, helping to shape up the future of the profession. We are looking to extend our commitment into veterinary medicine research, contribute more to publications using client generated samples and those gathered in collaboration with other veterinary centres and universities. We are part of your team and I'd like to thank you for your custom.

David Charvill,
Director of Laboratory Services

IN FOCUS: What's New in Veterinary Dermatology?

The British Veterinary Dermatology Study Group (BVDSG) met in person for the first time since 2019 on Wednesday March 3rd 2022. This annual spring meeting usually takes place the day before the BSAVA meeting and at the same venue, allowing delegates to attend both events if they wish. Given that dermatopathology has always been a topic of special interest in the histology department here at Nationwide Laboratories, two of our pathologists (**Trevor Whitbread and Alison Lee**) attended the event this year. Nationwide Laboratories has been a proud supporter of these meetings for many years.

The title of this year's meeting was "What's New in Veterinary Dermatology?" Quite a lot, it turns out. Over the course of almost eight hours, multiple excellent speakers gave talks on various topics relating to small animal dermatology and reviewed the recent literature. Below are a few snippets from each of the informative and entertaining lectures.

What's new in allergy diagnosis and therapy? by Ralf Mueller

Antibodies (including IgE) are only produced against proteins, right? Wrong. IgE antibodies can be produced form against complex carbohydrate determinants: carbohydrate components of glycoproteins commonly found on the cell surface of plants and insects. These antibodies are clinically irrelevant and do not cause mast cell degranulation. However, when serum allergy tests are performed, these anti-CCD IgE molecules can cause polysensitisation to plant allergens to be found on test results (i.e. an animal that is apparently allergic to ALL plants in a test panel). Blocking of anti-CCD IgEs can help in avoiding this polysensitisation and obtaining more accurate serum allergen test results.

Read more: Lee, K.W., McKinney, B.H., Blankenship, K.D. and Morris, D.O., 2020. Detection and Inhibition of IgE for cross-reactive carbohydrate determinants evident in an enzyme-linked immunosorbent assay for detection of allergen-specific IgE in the sera of dogs and cats. Veterinary dermatology, 31(6), pp.439-e116.

What's new in feline allergy? by Sue Paterson

Feline Atopic Skin Syndrome (FASS) is the term currently used to describe cutaneous manifestations of hypersensitivity to environmental allergens in cats (similar to "atopic dermatitis" in dogs). Cats can develop this condition over a wider age range (0.5-4.8 years) than is typical of dogs with atopic dermatitis. Some studies suggest this condition can develop in animals older than 7 years of age. Females are predisposed, with 58.4% of affected animals being female in this study. Clinical signs are very variable and include eosinophilic granuloma complex, miliary dermatitis, self-induced alopecia, and face, head and neck pruritis. Approximately one third of cats can present with more than one clinical sign. This is a diagnosis of exclusion, made by ruling out fleas and other parasites, flea allergy and food allergy.

Read more: Santoro, D., Pucheu-Haston, C.M., Prost, C., Mueller, R.S. and Jackson, H., 2021. Clinical signs and diagnosis of feline atopic syndrome: detailed guidelines for a correct diagnosis. Veterinary Dermatology, 32(1), pp.26-e6.

THANK YOU FOR
COMING TO SEE US AT
BSAVA 2022 - NOW
CHECK BSAVA LIBRARY
FOR OUR RECORDED
LECTURES



Histiocytic diseases in dogs and cats: an overview of clinical presentation and diagnosis by Alison Lee BSc MVB MRCVS DipACVP

This is an overview of histiocytic diseases in dogs (histiocytoma, cutaneous Langerhans cell histiocytosis, cutaneous histiocytosis, systemic histiocytosis, histiocytic sarcoma and dendritic cell leukaemia) and in cats (progressive histiocytosis, histiocytic sarcoma and pulmonary Langerhans cell histiocytosis), including their cellular origins and clinical presentation. An overview of their diagnosis, including the use of cytology, histopathology and immunohistochemistry is also provided.

[WATCH FREE →](#)

Getting the best from your pathologist: post-mortems and surgical biopsies - tips and tricks for vets in practice by Alison Lee BSc MVB MRCVS DipACVP and Danilo Gouveia Wasques MV MSc DipACVP.

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COMING UP IN BSAVA LIBRARY IN JULY

Virtual Congress 2022 Session: Canine mast cell tumours - 50 shades of grading by Alison Lee BSc MVB MRCVS DipACVP.

What's new in laser therapy? by Tim Nuttall

The use of lasers in veterinary practice can offer advantages compared to the traditional surgical approach when employed by an experienced operator. These include ease and speed of use, reduction of haemorrhage, tissue trauma and swelling, reduction of post-operative pain and faster healing. Tim gave some examples of situations in which lasers may be superior to traditional surgery. This includes removal of small nodules located in areas in which conventional surgery would be difficult (e.g. eyelids, ear canals), removing large, shallow lesions (e.g. feline eosinophilic granulomas, sarcoids, acral lick granulomas, Bowenoid in-situ carcinoma and squamous cell carcinoma in situ), treatment of lesions of chronic interdigital furunculosis (especially where "false pads" form), and in ear canals as a substitute for total ear canal ablation (e.g. in widening stenosed ear canals or removing nodular lesions in feline cystomatosis).

Read more: Aslan, J., Shipstone, M.A. and Mackie, J.T., 2021. Carbon dioxide laser surgery for chronic proliferative and obstructive otitis externa in 26 dogs. Veterinary Dermatology, 32(3), pp.262-e72.

What's new in parasite control? by Ralf Mueller

Isoxazolines are the new kids on the block when it comes to parasite control. These are effective against fleas, ticks, mites (including demodex). They can also prevent the transmission of tick-borne diseases (although interestingly, isoxazolines are less effective against preventing transmission of Ehrlichia canis). While these drugs appear to be safe and effective, their long-term

effects on the environment and the possibility of development of resistance are still unknown. Therefore, careful evaluation of the effects of these drugs, as they become more widely used, is essential.

Read more: Honsberger, N.A., Six, R.H., Heinz, T.J., Weber, A., Mahabir, S.P. and Berg, T.C., 2016. Efficacy of sarolaner in the prevention of Borrelia burgdorferi and Anaplasma phagocytophilum transmission from infected Ixodes scapularis to dogs. Veterinary Parasitology, 222, pp.67-72.



What's new in client communication for veterinary dermatologists? by Lidiia Alaverdova

This talk addressed communication between members of the veterinary team and between vets and their clients, taking into account the differences between Baby Boomers, Generation X, Millennials and Generation Z. Different generations tend to favour different communication styles and the use of different modes of technology. This can create misunderstandings, but can also be viewed in a positive light given the diversity of experience this brings to the workplace. When it comes to client communication, this talk emphasized the importance of keeping it simple and avoiding jargon, while showing empathy and compassion for clients and their pets.

Read more: [How to manage a multigenerational team](#). Accessed 1 April 2022.

IN PARTERSHIP WITH THE WEBINAR VET

FREE CPD

What are you itching to know about feline atopic skin syndrome? by Dr Rosario Cerundolo DVM, Cert. VD, Dipl. ECVD, FRCVS

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Clinical Pathology in cats and dogs - why species, breed and age matter by Helen Campbell BVM&S FRCPath MRCVS and Alina Bodnariu DVM MSc PhD FRCPath MRCVS

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Haematology and biochemistry results in equines: interpretation and significance by Dr Stacey A. Newton BVSc Cert EM (Int Med) PhD FRCPath MRCVS

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Cytology: How to get the best of it working as a team by Karina Fresneda

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PAID CONTENT

HELP! IT'S A FERRET by Madonna Livingstone BVMS MRCVS

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Basic cytology for practitioners by Trevor Whitbread BSc BVSc DipECVP MRCVS

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Hypercalcaemia in dogs and cats: an Overview by Dr Stacey A. Newton BVSc Cert EM (Int Med) PhD FRCPath MRCVS

[CLICK HERE →](#)

Lunchtime Basic Bitesize Pathology: Small Animal Mammary Pathology by Sandra Dawson BSc BVMS FRCPath MRCVS

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What's new in autoimmune disease? by Sue Paterson

This talk discussed deep forms of pemphigus: Pemphigus vulgaris, pemphigus vetegens and paraneoplastic pemphigus. Little is known about these conditions due to the very low numbers of published cases: for example, paraneoplastic pemphigus has only been reported in three dogs and one cat in the scientific literature! This highlights the need for first-opinion vets, dermatologists and pathologists to work together to identify, work up and publish cases of these conditions when they are encountered in practice. Deep pemphigus is often very debilitating, given that lesions frequently affect the mucous membranes and are associated with systemic signs. While remission may be induced with steroid treatment, relapses may occur when the dose is reduced and recurrent lesions are often harder to treat, resulting in euthanasia. Mycophenolate mofetil, Bruton's tyrosine kinase inhibitors and oclacitinib have been recently trialled in the treatment of autoimmune skin disease with mixed results. However, further research may clarify whether these treatments may be helpful in these debilitating conditions.

Read more: Putra, A., Austel, M. and Banovic, F., 2022. A retrospective evaluation of the steroid sparing effects of oral mycophenolate mofetil (MMF) as an adjunct immunosuppressant for the treatment of canine pemphigus foliaceus. Veterinary Dermatology, 33(1), pp.77-e24.

What's new in otitis? by Sue Paterson

Otitis externa (OE) is something all small animal vets encounter on a

daily basis, yet some aspects of this condition remain poorly understood. A recent UK study with a very large sample size examined predisposing factors for OE. As expected, dogs with pendulous ear carriage (e.g. Bassett hound) had an increased risk of developing OE.

Interestingly, breeds with a v-shaped drop pinna (e.g. Labradors) had a similar risk of developing OE to dogs with long, pendulous ears. This study also identified breeds at reduced risk of developing OE, including the Chihuahua, Border Collie, Yorkshire Terrier and Jack Russell Terrier. "Designer breeds" such as the Cavapoo, Cockapoo and Labradoodle had an increased risk of OE, probably due to the poodle and spaniel genetics, breeds that are prone to OE.

Read more: O'Neill, D.G., Volk, A.V., Soares, T., Church, D.B., Brodbelt, D.C. and Pegram, C., 2021.

Frequency and predisposing factors for canine otitis externa in the UK—a primary veterinary care epidemiological view. Canine medicine and genetics, 8(1), pp.1-16.



NationWide LABORATORIES

INTERPRETATION OF CYTOLOGY AND HISTOLOGY REPORTS - AN INSIGHT INTO THE MIND OF A PATHOLOGIST

by Danilo Wasques MV MSc DipACVP

FREE WEBINAR

Now available on demand

The advertisement features a blue background with a white circle containing a blue arrow pointing left. At the bottom, there is a silhouette of a human head in profile, with a brain and a petri dish containing a microscopic image of cells.

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Exotics Bundle (2.5h)

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LABFACTS

Laboratory diagnostic reference guide written by our pathology team and aimed at helping you investigate diseases in small animals and horses.



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ALLERGY TESTING

allervet® offers a comprehensive package to assist in the diagnosis and treatment of allergic disease in dogs, cats and horses. The **allervet®** test is a serological assay for allergen-specific IgE designed exclusively for veterinary use. The IgE detection system utilises advanced oligoclonal technology.

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allervet® is offered to you exclusively in the UK by NationWide Laboratories, leaders in veterinary clinical pathology. For more details, visit www.allervet.com or telephone 01253 899215.

What's new in canine pyoderma? by Ralf Mueller

It's old news: vets, doctors and the agrifood industry need to seriously cut back on antibiotic use. This is especially true for canine pyoderma, where resistant strains of *Staphylococcus pseudintermedius* frequently develop on the skin after treatment for pyoderma. So what new option are out there? Topical therapy (e.g. chlorhexidine-based shampoos, mousses, gels and wipes) are really useful, but require a high degree of owner compliance and therefore client communication is integral to the success of these therapies. Medicinal plants are being examined as an alternative to antibiotics. While results in vitro have been promising, there is little data examining their effectiveness in vivo. Fluorescent biomodulation, phage therapy, anti-staphylococcal vaccines and competitive inhibition (where cream containing coagulase-negative Staph is cultured from the patient and spread over the affected skin) are other options in which research is in its early stages or for various reasons, has come to a halt and not been explored further. However, exploring all options is essential in the fight against antimicrobial resistance.

Read more: Silva, E.C., Oliveira, T.J., Moreli, F.C., Harada, L.K., Vila, M.M. and Balcão, V.M., 2021. Newly isolated lytic bacteriophages for *Staphylococcus intermedius*, structurally and functionally stabilized in a hydroxyethylcellulose gel containing choline geranate: Potential for transdermal permeation in veterinary phage therapy. *Research in Veterinary Science*, 135, pp.42-58.

Surveillance for exotic worms and worm like parasites in imported and travelled dogs

Pet travel, growing pet importation and expansion in global parasite distribution are all increasing risk of exotic parasites to the UK. The scientific council for companion animal parasites (ESCCAP) UK & Ireland and Animal and Plant Health Agency (APHA) are being alerted to increasing numbers of various worm and worm like parasites in dogs being imported from Southern and Eastern Europe. These include the eye worm *Thelazia callipaeda*, skin worm *Dirofilaria repens* and the nasal pentastomid *Linguatula serrata*. All three of these parasites are zoonoses with the potential to establish in the UK. Their diagnosis relies primarily on identification of adult parasites found on clinical examination, which is vital to improve prognostic outcomes in infected dogs and to minimise the risk of establishment in the UK.

T. callipaeda is a whitish filiform, 7-17 mm in length, eye worm. Although often subclinical, ocular thelaziosis can cause conjunctivitis, keratitis, epiphora, eyelid oedema, and in serious cases blindness. Close examination of the conjunctiva can reveal worms actively moving on the surface (Figure 1).

Adult *D. repens* filariae can be found in subcutaneous nodules which are 3-6 cm in diameter and are usually soft with serohaemorrhagic contents. Adult worms are whitish and 5-15 cm in length (1) (Figure 2).

(1) Beugnet F, Halos L, Guillot J. *Textbook of clinical parasitology in dogs and cats 2018*.

L. serrata lives in the nasal airways of dogs where it is responsible for

SAME DAY PTH

NationWide Specialist Laboratories are offering a SAME DAY service for the analysis of canine, feline and equine parathyroid hormone (PTH). Parathyroid hormone-related protein (or PTHrP) is assayed once a week on Wednesday with results available on Thursday. If you want our RAPID PTH service as well as PTHrP, please submit 2 separate frozen EDTA Plasma samples. PTHrP will continue to be analysed once a week. **For more details, please contact us at 01223 493400.**

EQA SCHEME

We operate an independent National EQA scheme for all practices and for a wide range of analytical equipment brands. This ensures that equipment and reagent problems that uniformly affect a single brand will be identified. Reports will be generated from the data submitted and provided to individual participants or group practice headquarters. Options:

- Biochemistry EQA and "paired sample" comparison testing for Haematology analysers.
- Biochemistry EQA only.
- "Paired sample" comparison testing for Haematology analysers only.

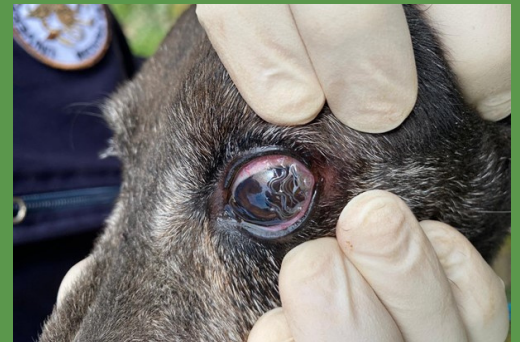


Figure 1. Clinical infestation with *Thelazia callipaeda* in a dog. Courtesy of Jairo Mendoza Roldan.



Figure 2. Macroscopical view of an adult of *Dirofilaria repens*, which can be found in subcutaneous nodules.

mild to severe rhinosinusitis. Adult worms may be expelled from the nose during sneezing or discovered during endoscopy (Figure 3).

APHA and (ESCCAP) UK & Ireland are collaborating to encourage diagnosis and reporting of these parasites and to map the distribution of cases. This will help to inform their distribution and prevalence as well as helping to identify where autochthonous transmission may be occurring. APHA will carry out free of charge, morphological identification of suspected cases of *T. callipaeda*, *D. repens* and *L. serrata* seen in veterinary practices in England and Wales.

We encourage veterinary practices to submit any samples that may be one of these parasites to APHA for identification. Samples should be posted to the APHA Carmarthen Veterinary Investigation Centre. Sample submissions must be accompanied by full clinical history to qualify for free testing. Further, information on how to submit them can be found [here](#).

Ian Wright (ESCCAP UK & Ireland)

Michele Macrelli (APHA Veterinary Investigation Officer)

Gillian Diesel (APHA Veterinary Lead of the Small Animal Expert Group)

Supporting the future of veterinary profession

In May and June NationWide Laboratories proudly supported a couple of events in the veterinary education. We were invited to present People's Choice Award at the Student's Poster Event at **The Harper & Keele Veterinary School**. Many thanks to the organisers and all the students who came to talk to us. With your enthusiasm, eagerness to learn and intention to go above and beyond the future of the profession looks promising!

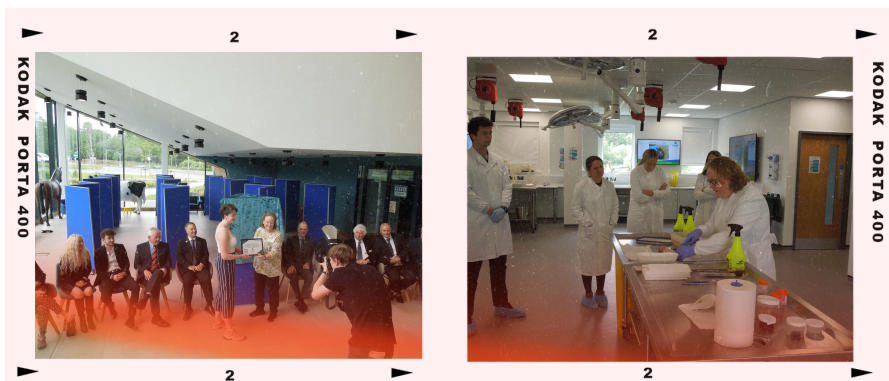


Figure 3. Fig 3. Macroscopical view of *Linguatula serrata* expelled by sneezing from a dog.

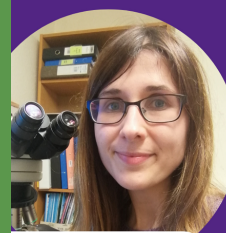
SDMA ASSAY

This assay has been validated against Liquid Chromatography – Mass Spectrometry method which is the Gold standard. This is an immunoturbidimetric assay and has been validated for dogs, cats and horses. Li-hep plasma or serum are suitable samples for this assay. THE RESULTS ARE AVAILABLE SAME DAY.

GERIATRIC PET PROFILES

Comprehensive testing is recommended for senior dogs and cats, due to the higher risk of underlying disease. There are four main categories of wellness testing for senior pets: **complete blood count, biochemistry profile, urinalysis, and thyroid hormone testing**. Our canine and feline geriatric profiles include a chemistry panel to **evaluate kidney and liver function, antibody and protein levels, blood sugar, cholesterol, electrolytes and more**. For more information, contact us at info@nwlabs.co.uk.

The woman behind the microscope



Alison Lee

"Be friendly and smile and make a small part of someone's day a nice experience..."



[READ MORE →](#)

We were also invited to **Myerscough College Veterinary Symposium and Exhibition**, where we met a lot of people, shared slides and cases, had discussions, exchanged opinions, gave guidance, delivered presentations and established partnerships. Thanks to everyone who came to see us!



HOW CLEAN IS YOUR PRACTICE?

We offer you a microbiological screening programme to screen your facilities and equipment. Swabs are supplied with simple instructions and a postage paid envelope for return to our laboratory for testing. We test for aerobic and anaerobic cultures as well as specific cultures for yeast and fungi. This comprehensive testing includes (but is not limited to) cultures for the following major groups of organisms: *Enterobacteriaceae*, *Enterococci*/*Streptococci*, *Pseudomonadaceae*, *Staphylococci* (Meticillin resistant/sensitive) as well as spore forming bacteria such as *Bacillus* and *Clostridium spp.*

HYDROTHERAPY POOL WATER TESTING

We all know that hydrotherapy in conjunction with veterinary treatment can assist in improving the rate of recovery and healing of animals after injury or surgery. At NationWide Laboratories we can assist you in demonstrating to your clients that your facility meets the guidelines for water safety and quality through our hydro pool testing service, which meets the requirements of hydrotherapy associations such as CHA and NARCH.

We will provide you with the sample bottle, guidance on how to take the sample and prepaid postage to get the sample to us. You will receive a report of printed enumerated results for total viable count at 37 degrees itemising *total coliforms*, *E. coli*, *Pseudomonas aeruginosa* and guidance for interpretation.

Simply call 01253 899215 or email info@nwlabs.co.uk for more information.

