

NATIONWIDE LABORATORIES SUMMER NEWSLETTER

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Message from David Charvill

Dear friends,

Welcome to our summer newsletter! Today we invite you to explore our online resources, case studies, and other content. NationWide Laboratories is dedicated to supporting your veterinary practice with high-quality diagnostic testing, providing you with accurate and reliable results to deliver the best possible care for your patients. As a part of the wider NVS Group, we're able to offer you a wide range of services and solutions that go beyond laboratory testing. Working with NVS Group, you'll have access to a single point of contact for all your needs, including wholesale products, VetIT industry-leading practice management software, and Select from NVS range of products. This streamlined approach eliminates the complexity and administrative burden associated with managing multiple vendors, freeing up more time for you to focus on what matters most delivering exceptional patient care. By partnering with NationWide Laboratories and the wider NVS Group, you can simplify your operations, enhance your practice's efficiency, and provide the highest level of care to your patients.

David Charvill, Director of Laboratory Services







NationWide Laboratories: Your NEW Practice Plus free laboratory work at the moment when you need it most

NationWide Laboratories is a proud member of NVS Group, offering a wide range of laboratory diagnostic solutions for veterinary professionals and their animal patients. This summer NationWide Laboratories is offering a special incentive to new veterinary practices starting from scratch.



At NationWide Laboratories we understand the challenges that new practice owners face when setting up their business. That's why we are offering four weeks of free testing from the day they open their doors to their first patient. This offer is designed to help alleviate some of the stress and burden associated with starting a new practice, and to support the new owners in their journey to success. To take advantage of this offer please email info@nwlabs.co.uk and use code NEW PRACTICE FREE TESTING.

NationWide Laboratories offers a comprehensive range of tests and expert interpretation to help vets make informed decisions. Our teams can assist clients in selecting the right tests for companion, exotic, and farm animals, as well as support custom projects.

Our laboratory diagnostics are designed to be accurate, reliable, and efficient, providing practitioners with timely results to make treatment decisions. We use state-of-the-art technology and methods to ensure that our tests are performed with precision and accuracy. Our expert team of scientists and pathologists are available to provide guidance on test selection and interpretation. We understand that trust is essential in our industry, and we work hard to build strong relationships with our clients.

"We know that starting a new practice can be a daunting task, and we want to do everything we can to support these new practice owners," says David Charvill, Director of Laboratory Services at NationWide Laboratories. "That's why we're offering this special incentive - we want to help lighten the burden and give them the best possible start in their new venture."

David, who has worked with numerous successful new practices, emphasises the importance of choosing the right partners when starting a new business. "Make sure you work with supportive suppliers and ask them for help," he advises. "Within the NVS Group, we have a whole team of specialists who can offer support on a range of areas, from stock control and lab profiles to social media marketing and pet retail. Ask the questions and lean on your territory manager for support." Partnering with NVS Group provides you with a single point of contact for all your needs. You can access wholesale products, laboratory services, industry-leading practice management software, and NVS own range of products – all under one roof.

As part of the NVS Group, NationWide Laboratories is dedicated to providing exceptional customer service, expert technical support, and unparalleled reliability in laboratory diagnostics. With over 40 years of experience, we have established ourselves as a trusted partner for veterinary practices across the country.

"We are committed to providing accurate and reliable results that help vets make informed decisions," says Charvill. "Our goal is to be a trusted partner for our clients, providing them with the tools they need to deliver exceptional patient care."

NATIONWIDE LABORATORIES NOW OFFERS NU.Q® VET CANCER SCREENING TEST IN THE UK

It is a simple, affordable, easy to use blood test which can be used as part of a wellness check for older dogs as well as younger dogs with an increased risk of developing cancer in their lifetimes, such as those with a familial history and certain breeds. By measuring and analysing nucleosomes in the DNA, the Nu.Q® Vet Cancer Test can identify patients who may have cancer. This be confirmed by follow procedures, for example, a biopsy or a scan. Alongside other routine blood work and imaging, this test may help find cancer at an early stage, before symptoms appear, allowing for a better chance at effective treatment.

To enquire about this service/ subscribe to it please email cs.info@nwlabs.co.uk

NATIONWIDE SPECIALIST LABORATORIES OFFERS A SERVICE FOR THE ANALYSIS OF ERYTHROPOETIN (EPO)

EPO plays a key role in the regulation of red cell mass and erythrocyte production. EPO may be used to aid the differential diagnosis of polycythemia and non-regenerative anaemia. Raised levels of EPO occur in secondary polycythemias and renal tumours. Low/normal levels may occur in renal failure and polycythemia vera.

Sample requirement is 0.5mL separated serum. For further enquiries, please ring 01223 493400

CENTRE OF EXCELLENCE FOR HISTOPATHOLOGY

We provide diagnostic veterinary histopathology services to veterinary practitioners and universities throughout the UK and worldwide. Our interest does not stop at the point of diagnosis, and we are involved in research in veterinary medicine.

We have contributed to publications based upon both the samples that our clients send us and also in collaboration with other veterinary centres and universities.

Customer Voice Programme: we hear what you say

At NationWide Laboratories, we are committed to delivering exceptional service that exceeds your expectations. To ensure we are on the right track, we launched our Customer Voice Programme in 2021 to gather your feedback and insights on our services, products, and overall performance. This initiative is a vital part of our commitment to continuous improvement, allowing us to better understand your needs and preferences.







Over the past 12 months we have sent out nearly 20,000 emails







Your average rating of 9 or 10 out of 10 has earned us NPS of 66

Over the past 12 months, we have sent out nearly 20,000 emails, seeking your honest opinions on how we are doing and what we can do better. And the results are truly remarkable! Your average rating of 9 or 10 out of 10 has earned us a Net Promoter Score (NPS) of 66 – significantly higher than the healthcare industry average of 58* (*according to CustomerGauge). This outstanding performance is a testament to the hard work and dedication of our team members, who are passionate about delivering great service to you and your patients.

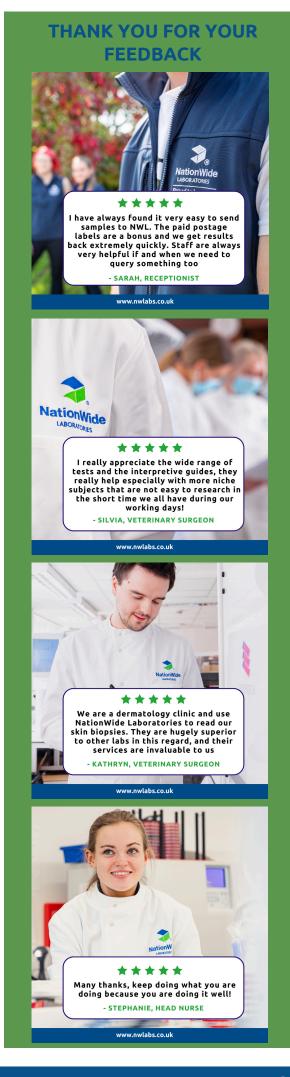
As a direct result of your feedback, we have made changes to enhance your experience with us. These include:

- Introducing new tests and profiles to expand our diagnostic capabilities, allowing us to provide more comprehensive services to our clients
- Creating a courier booking app for seamless pickup scheduling, making it easier for you to manage your workflow and reduce administrative tasks
- Launching a customer portal for convenient access to test results, giving you greater control over your account and allowing you to focus on what matters most – providing high-quality care for your patients
- Implementing digital pathology services for streamlined sample management and reducing turnaround times

At NationWide Laboratories, we are more than just a laboratory – we are your partner dedicated to delivering high-quality veterinary diagnostics, pathology expertise, and exceptional customer support. We are committed to continuous improvement and want to hear more from you. Your feedback is crucial in helping us understand what we do well and where we can improve. We are dedicated to supporting you every step of the way, recognising that your success is our success. Together, let's continue to drive excellence in veterinary diagnostics and build a strong partnership. If you have any questions or concerns, please don't hesitate to reach out. We value your input and look forward to continuing our journey together.

Click to leave us your feedback





Veterinary Woman: Fiona Farmer speaks to NationWide Labs Team



















Click on the images to access full interviews

VETchat | Veterinary Podcast: Anthony Chadwick speaks to NationWide Labs Team







Paw-thology Path Of Discovery - Sandra Dawson & Jasmine Chan







Finding NEMO for Your Start-Up Practice (Network of Excellence in Medical Operations) - Wendy Phelan & Hannah Pinnock

Click to meet a wider team



ONLINE CUSTOMER PORTAL: IT'S LIKE 1, 2, 3 - JUST AS EASY AS CAN BE



Our online customer portal which was first launched at the London Vet Show in 2022 is now up and running. The portal is designed to streamline the sample submission, tracking and result reporting process. It perfectly aligns with our commitment to delivering a greener pawprint by offering you this alternative to a paper-based system.

This platform is set to give you another additional way to interact with us, offering a faster and more convenient means of managing sample submissions, tracking their progress and obtaining results. It is a software interface that gives you complete visibility into your interactions with our laboratories. To start using the platform please contact us at CBailey@nwlabs.co.uk

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, (Meticillin Staphylococci resistant/ sensitive) as well as spore forming bacteria such as Bacillus and Clostridium spp.

For more information, contact us at info@nwlabs.co.uk.

The Spindle Cell Dilemma and the importance of the follow-up biopsy





Cytological evaluation of fine needle aspirates can provide critical information to veterinary practitioners, for example in the detection of mast cell neoplasia. However, in some cases the cytological evaluation does not provide a definitive diagnosis, but it can give us some useful information and help us to determine the next step. In these instances, it is important to have a differential list in mind and to communicate this to the client.

Inga is a 2-year-old female neutered golden retriever who presented to her local practice with a subcutaneous mass on her left lower abdomen which had been present for approximately 3 weeks. Initial cytological evaluation revealed some blood with low numbers of small nongranular mononuclear round cells and some large spindle cells. Spindle cells were loosely aggregated with oval nuclei containing single prominent nucleoli and stippled chromatin. Cells had abundant fibrillar or fusiform cytoplasm. There was some anisocytosis and rare binucleate cells were present. Convincing infectious organisms and other nucleated cells were not evident (Figure 1 - see next page).

Around the same time Connie, a 13-year-old female neutered golden retriever also presented at her local practice with a small, firm cutaneous lump on her dorsal neck. Fine needle aspirates showed high cellularity. There were aggregates of spindle cells that exhibited mild anisocytosis and anisokaryosis, a mixed inflammatory process characterized by the presence of macrophages, neutrophils, necrotic cellular debris, and a small amount of blood. Spindle cells exhibited round to oval nuclei with prominent nucleoli, condensed, coarse chromatin, and abundant cytoplasm with occasional vacuolation. No binucleated cells were seen (Figure 2 - see next page).

The images in each case are very similar and, in both cases, a reactive or neoplastic process was indicated, and the practitioner was advised to proceed to surgical excision with histological examination to try to reach a definitive diagnosis. The biopsy from the younger dog consisted of skin and tissue measuring 32 mm with a firm mass measuring 19 mm. Figure 3 (see next page) shows the histological presentation.

This consists of mature adipose tissue subdivided by thick transecting fibrous septae composed of large, interweaving reactive fibrocytes. There is some interstitial inflammation involving vesiculated macrophages and low numbers of lymphocytes or plasma cells. There are no convincing foci of infection or embedded foreign material. The lesion is relatively well demarcated but not encapsulated. Inflammatory cells and fibrocytes extend to the borders of the sections (Figure 4 - see next page).

Convincing malignancy is not evident. The diagnosis was considered to be nodular fibrosing panniculitis which is a reactive fibroproliferative lesion. It is believed to be the result of local injury. Lesions are asymptomatic and pain is not noted. Nodules can be surgically excised or monitored to ensure that they gradually reduce in size. *To be continued...*

USING OUR 3DHISTECH PANNORAMIC P1000 RX

NationWide Laboratories is pleased to offer a high speed and high-resolution slide scanning service to professionals and organisations. We guarantee the best quality digital slide scanning solution, using the largest throughput scanner available on the market; the 3DHistech Pannoramic P1000 RX scanner. Using our digital slide scanning service gives you all the advantages of digital pathology without the high-cost investment.

Benefits

- The highest resolution scanning available today - 82x water immersion
- Brightfield scanning at resolutions of 20x, 40x, including whole slide scanning
- Z stack and extended focus scanning options available too
- High throughput and quick turnaround service
- Our specialist service allows the highest quality images but without the large file sizes often associated with scanned images.
- Digitisation of slides allows for efficient sharing of images, whether that be with a colleague for preparing for publication or presentation
- Archiving and convenient storage of digital images vs onsite storage of glass allows for centralisation, control and security of your images

Service

- All you need to do is send us your glass slides and in return you will receive the high-resolution digital images either as a cloud storage link or physical hard drive
- 30-day image storage is included; extended image storage options are available
- A range of image types are available
- Low-cost and rapid turnaround service

Contact

andrew.pritchett@nwlabs.co.uk to discuss your project and to take advantage of the high-quality slide scanning service! ...continued.

Connie's biopsy consisted of skin and tissue measuring 68 mm with a firm, raised mass measuring 28 mm. The histological appearance can be seen in Figure 5 and shows a central dermal, poorly demarcated mass extending into the subcutis.

There is central necrosis and oedema. At the periphery there is haphazard proliferation of neoplastic spindle cells. Superficially these are well-differentiated, forming short interweaving fascicles and palisades. In the deeper tissue the cells become dense and pleomorphic (Figure 6).

They have oval nuclei with prominent nucleoli and clumped chromatin patterns. They have fusiform cytoplasm, often with indistinct borders. There is moderate anisocytosis with scattered multinucleate cells and typically 18 mitotic figures per ten high-power fields (X 400). The lesion is not encapsulated. It is surrounded by adipose tissue which contains a few lymphocytes, plasma cells and macrophages. Margins measure 7-15 mm laterally and 3-7 mm at the deep border. The diagnosis was an intermediate-grade canine soft tissue mesenchymal tumour (differentials include fibrosarcoma, peripheral nerve sheath tumour and perivascular wall tumour). This class of tumours all behave in the same way regardless of the exact cell of origin. They are locally infiltrative and frequently recur following surgery, despite the appearance of complete excision, due to difficulty in achieving adequate excision margins at awkward surgical sites and the ability of these tumours to dissect between fascial planes. Metastasis however is uncommon or develops late in the course of the disease, usually after repeated excisions, via haematogenous rather than lymphatic spread. This particular lesion does appear to have been excised, however caution was advised, with close clinical monitoring to check for local regrowth.

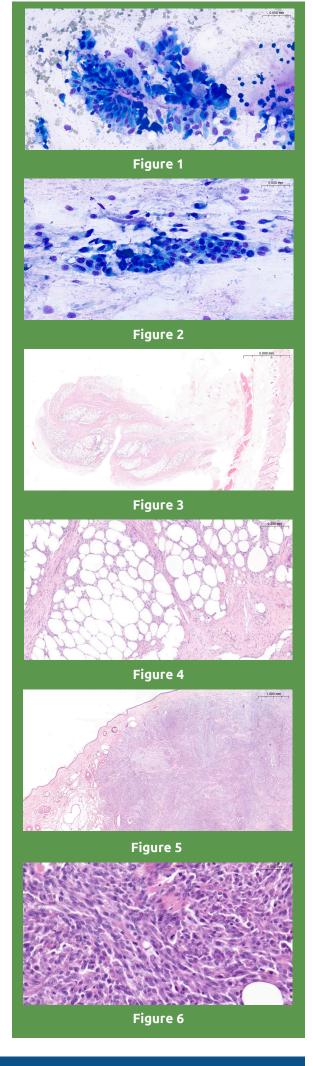
The striking feature of these cases is the similarity in their cytology presentation, with both fine needle aspirates showing a population of somewhat pleomorphic spindle cells. In both cases a neoplastic lesion was a significant concern. Age may be considered an important factor in these cases, with the younger dog perhaps more likely to develop a reactive lesion over a neoplastic one and this was confirmed in the surgical biopsies.

These cases highlight the importance of following up fine needle aspirates with histological examination of the surgically excised mass. This means that the diagnosis can be confirmed and, if appropriate, any confirmed neoplasm can be graded. Additionally, the margins can be confirmed. All of this information can be used to plan for any revision surgery or adjuvant therapy.

Submission of a full signalment and history is fundamental. This allows the pathologist to formulate an appropriate differential list which can provide the clinician with key information to discuss with the owners and allow for appropriate forward planning.

About the author

Sandra Dawson, BSc BVMS FRCPath MRCVS, is a graduate of Aberdeen and Glasgow Universities, gaining a BSc in agriculture with honours in animal science in 1991 and her veterinary degree in 1995. She moved from working in mixed practice in 1997 to take up a residency in veterinary pathology at Edinburgh University, latterly lecturing in reproductive pathology. After 5 years in industry, where she gained her FRCPath, Sandra joined Nationwide Laboratories in May 2006. In 2011 Sandra was appointed to the Royal College of Pathologists board of examiners in the speciality of small domestic animals. She enjoys teaching and mentoring and is an active STEM ambassador. Sandra works with surgical biopsies and fine needle aspirates. She can advise on all aspects of histopathology in a wide range of species.



Possible cryptococcosis in a 10year-old domestic shorthair cat

A 10-year-old domestic shorthair male cat presented with a recurrent nasal mass, which was initially excised surgically last year. The clinical pathology team at NationWide Laboratories performed a cytological examination of the mass using digital pathology images, revealing marked pyogranulomatous inflammation and suspicious yeast elements that were likely to be Cryptococcus. The presence of round to oval (11-12 um diameter) yeast structures with internal basophilic stippling and a thin clear external halo were observed both extracellularly and within macrophages. There were also frequent pseudohyphae observed in some areas. This looked consistent with a diagnosis of *Cryptococcus* infection. The digital images allowed for high-resolution visualisation of the fungal elements; however, further confirmation would require culture or PCR testing to definitively identify the species and determine the specific genotype involved. The diagnosis of Cryptococcus typically involves confirmation through culture or PCR testing, which is crucial for determining the species and genotype involved. The presence of fungal elements in the cytology sample suggests that the infection is likely caused by the Cryptococcus neoformans or Cryptococcus gattii species (other species e.g. C. albidus and C. magnus are rare), which is a common cause of fungal infections in cats. The diagnosis was further supported by the presence of fungal-related histopathological changes in the biopsy sample. Treatment for *Cryptococcus* typically involves a prolonged course of antifungal therapy, with Amphotericin B, ketoconazole, fluconazole, and itraconazole being commonly used. Surgical excision of any nodules may also be a valuable adjunct treatment to enhance treatment outcomes and prevent recurrence. In this case, the cat was treated with a combination of antifungal therapy and surgical excision of the nasal mass.

Further information

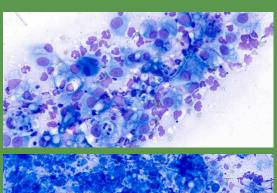
Cryptococcosis is considered the most common systemic fungal disease in cats. It is not a zoonotic disease, and infected cats are not contagious to humans and other animals. The disease is typically caused by the Cryptococcus neoformans-Cryptococcus gattii species complex and is acquired from contaminated environments. The infection can manifest in various clinical forms, including nasal (most common), central nervous system, cutaneous, and systemic forms. Diagnosis can be confirmed through diagnostic imaging, antigen detection, cytology, biopsy samples, and culture or PCR testing. Treatment typically involves a prolonged course of antifungal therapy, with surgical excision of any nodules as an adjunct treatment. CNS and systemic forms may require symptomatic treatment. Prognosis is favourable in most cases if diagnosed early and treatment compliance is good. Prevention: free-roaming cats in rural areas are potentially more exposed to Cryptococcus, even though urban cats can be contaminated through pigeon guano. According to ecology, the presence of avian guanos, particularly pigeon droppings, and some decaying vegetation substrates, such as Eucalyptus leaves, may be considered risk factors.

Conclusion

This case demonstrates the benefits of integrating digital pathology technology into veterinary diagnostic workflows. The use of advanced digital imaging technology enabled rapid and accurate identification of fungal elements, allowing for prompt diagnosis and disease management. The collaboration between the practice team and NationWide Laboratories' experts ultimately led to improved treatment outcomes for this feline patient.

Reference

Cryptococcosis in cats guidelines, first published in the J Feline Med Surg 2013, 15: 611-618 by <u>Maria Grazia Pennisi</u> et al. The present guidelines used here were updated by Maria Grazia Pennisi.





Cryptococcus and pseudohyphae

About the author

Dr Stacey A Newton, BVSc FRCPath CertEM (Int Med) PhD MRCVS, graduated from Bristol in 1993. After building up experience in general practice, she became a resident in equine medicine at Leahurst, Liverpool University. She was awarded a certificate in equine medicine (internal) in 1997. Stacey then went on to complete her PhD in equine neuroanatomy and neurology in 2001. She was awarded her FRCPath in 2010.

Equine articles by Dr Stacey A Newton

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NationWide Labroratories SDMA assay with results available the same day. 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. Lihep plasma or serum are suitable samples for this assay.

Disease, laboratory diagnostics and the role of zoos in biodiversity

Global biodiversity is facing an alarming decline. Whether due to deforestation, climate change or pollution, the impact on plant and animal populations is significant and requires concerted efforts if it is to be reversed. While addressing the broader issues like habitat loss caused by human activities is essential, zoos also play a critical role in conservation and maintaining biodiversity. Underlining this, a 2023 ZSL study highlighted the potential impact that zoos can have in re-establishing populations of 'extinct in the wild' species back in their natural habitats, with captive populations providing a pool of genetic diversity.

The power of preventative medicine

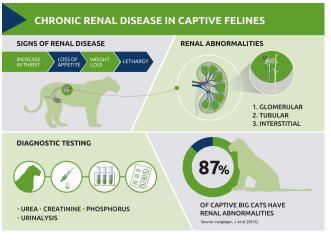
But of course, justifying the keeping of animals in captivity requires not only a commitment to conservation but also high standards of health and welfare. Preventative veterinary medicine is a key aspect of this and absolutely fundamental in a zoo setting, focusing on both individual and population health.

Early detection of disease is vital. Outbreaks of disease in zoo populations can be devastating and difficult to manage once established, resulting in ongoing morbidity and mortality, poor reproductive performance and movement restrictions. Infectious diseases can spread rapidly, even across species, and may also have zoonotic implications.

However, many captive species do not show overt clinical signs of disease so observational checks and clinical examination alone can prove unrewarding. Laboratory screening alongside diagnostic testing of clinically unwell animals, both for infectious and non-infectious disease, remain key to early diagnosis and maintaining the health of a zoo's population.

Click to read the full article. Original publication: Veterinary Edge, issue 40, June 2024, pp 22-24







About the author

Sandra Wells, BSc (Hons) Applied Biology with Biochemistry, is the Head of Operations and Head of Sustainability Committee at NationWide Laboratories. Sandra is responsible for the smooth running of the three NationWide Laboratories sites, including the Cambridge laboratory which provides faecal and blood screening for reproductive monitoring and the Poulton Laboratory which provides blood tests, faeces analysis and cultures. Sandra has worked in the veterinary industry for 25 years and works with Zoo clients to develop tests and profiles most suited to their needs. Sandra is passionate about conservation of species and sustainability and is part of the sustainability committee for the NVS Group.

SAME DAY PTH

NationWide Specialist Laboratories is 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.

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.

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 ОГ email info@nwlabs.co.uk for тоге information.