THE RALPHER

SPRING EDITION

2021

HEY!

Welcome to our Spring edition of The Ralpher. We're proud to talk about our team and our patients. And we're proud to work with you as part of a community that wants to better the lives of pets and their carers.

So thank you, we're glad you're here.

TEAM RALPH

Team announcements

Celebrations all round!

Our marvellous interns Cecilia and Chiara are about to embark on their residencies at the Royal Veterinary College (RVC)! Chiara is pursuing her passion for Emergency & Critical Care, and Cecilia is pursuing her passion for Neurology & Neurosurgery. It's a huge achievement to be offered a residency at the prestigious RVC, and we are extremely proud of them both. We wish them all the very best for their journey to become a specialist in their respective fields.

Caroline (above left), Sarah (above right)

Sadie (left), Melissa (above)

A big congratulations to our Senior Clinical Theatre Nurse, Sarah, who has been awarded her Nurses Certificate in Anaesthesia. Our ICU Nurse, Caroline, and our Night Nurse, Sadie, have also been awarded their Nurses Certificate in Emergency and Critical Care. These awards are credit to all of their hard work, dedication, and passion for veterinary nursing.

It's official... Melissa is a Registered Veterinary Nurse! Melissa, our Theatre + Anaesthesia Nurse, started her vocational training at a first opinion practice before joining The Ralph where she could continue her training in a referral setting. All the while she has been studying for her diploma. We're immensely proud of Melissa's achievement.

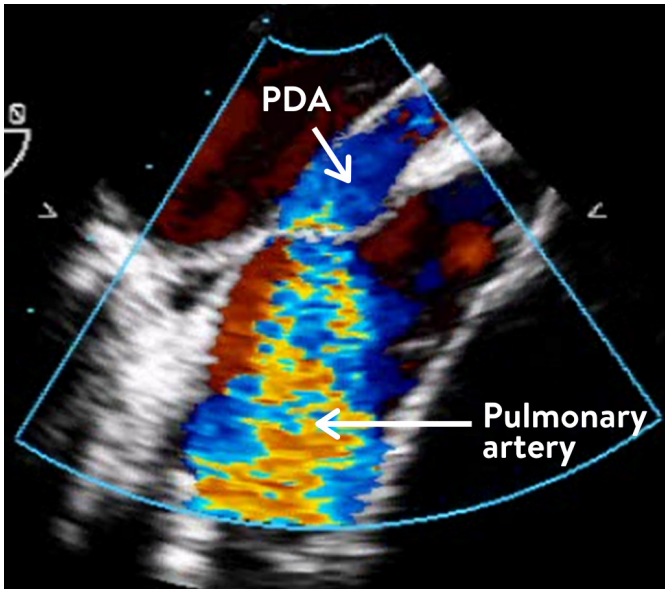
HEART MURMURS IN PUPPIES AND KITTENS

If you detect a heart murmur during a puppy or kitten's health check, it could be a sign of a life-threatening congenital defect. Our Cardiology Clinician, Heidi Ferasin BVSc CertVC MRCVS RCVS Advanced Practitioner in Veterinary Cardiology, tells us more about these congenital defects and the interventions used to treat them.

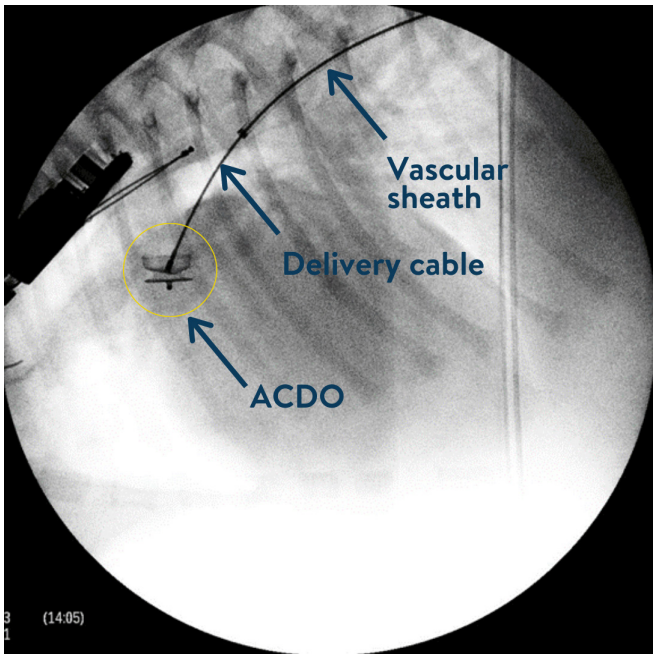
When a heart murmur is detected in a young animal, a Doppler echocardiographic examination should be conducted as a routine follow-up. If performed by a qualified cardiologist, this will reveal the nature and significance of the heart murmur. If a significant congenital defect is detected, our cardiology specialists are trained to perform various interventions to correct life-threatening congenital defects using minimally invasive procedures.

The most common congenital defects amenable to such interventions are patent ductus arteriosus (PDA), pulmonic stenosis (PS) and, in some cases, aortic stenosis (AS) and cor triatriatum dexter (CTD). A variety of other congenital abnormalities also present with a heart murmur in puppies and kittens, such as mitral and tricuspid valve dysplasia, ventricular septal defect and complex or mixed congenital anomalies. Even if a minimally invasive cardiac procedure is not currently available to correct these defects, an early diagnosis is still important to assess the disease severity and allow an appropriate prognosis and management plan.

Cardiologists Heidi Ferasin and Luca Ferasin during an interventional procedure supported by Anaesthesia Specialist Matt McMillan



Trans-oesophageal echo image showing a left-to-right shunting patent ductus arteriosus (PDA)



Placement of the ACDO device during surgery

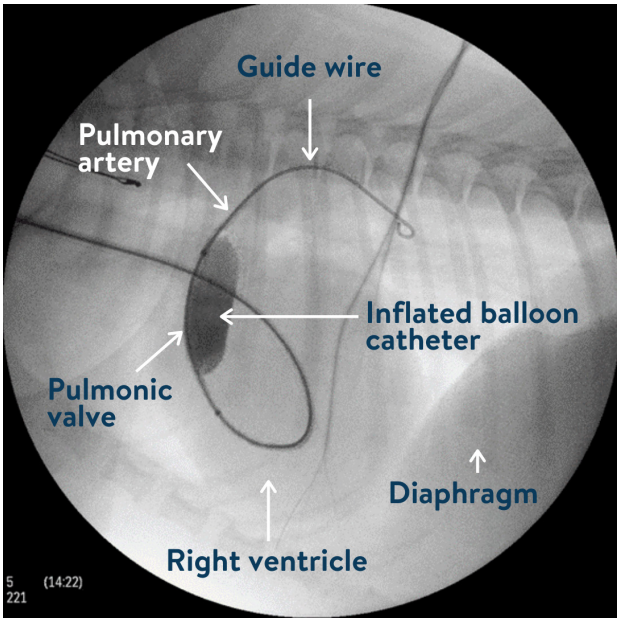
Patent ductus arteriosus (PDA)

Patent ductus arteriosus is one of the most common congenital cardiovascular abnormalities observed in dogs (although it can occur in cats too). This defect usually leads to left-sided cardiac chamber dilation, arrhythmias, left-sided congestive heart failure (CHF) and ultimately death. However, it is also one of the few cardiac conditions that can be cured in small animal practice. A minimally invasive per-catheter procedure (ACDO occlusion technique) has an excellent success rate and a more rapid recovery than traditional thoracotomy and surgical ligation for PDA closure.

Here at The Ralph, we regularly and routinely perform ACDO occlusion in our PDA patients under fluoroscopic and trans-oesophageal echocardiographic guidance with excellent results. We are also proud to have Dr Luca Ferasin, DVM PhD CertVC PGCert(HE) DipECVIM-CA (Cardiology) GPCert(B&PS) FRCVS European & RCVS Specialist in Veterinary Cardiology, lead our team since he was one of the cardiologists involved in the development of the ACDO device at the University of Minnesota more than a decade ago.

Pulmonic stenosis (PS)

Pulmonic stenosis is another common congenital cardiac defect in dogs. Doppler-derived pressure gradients over 80 mmHg across the pulmonic valve and/or significant right ventricular hypertrophy (RVH) classify the stenosis as "severe" and affected dogs are at risk for developing clinical signs of exercise intolerance, syncope, right-sided congestive heart failure and even sudden death. Palliative balloon valvuloplasty (BVP) is currently the best available therapy for this condition and this has been recommended in severe cases with moderate or severe RVH or when affected dogs are symptomatic. We are currently performing BVPs here at The Ralph on a weekly basis.



Balloon inflation across the pulmonic valve during a BVP

Aortic stenosis (AS)

Aortic stenosis in dogs is more commonly associated with a sub-valvular fibrotic or fibro-muscular ring in the left ventricular outflow tract (sub-aortic stenosis or SAS). Severe cases often develop exercise intolerance and malignant arrhythmias, which may cause syncope and sudden death (typically within the first 3-4 years of life). Several surgical procedures have been attempted to remove the fibrous tissue in SAS cases with disappointing results. However, the combination of balloon catheter dilation preceded by a balloon cutting technique to partially dissect the fibrous tissue is currently producing encouraging results.

If you detect a heart murmur and would like to refer the case for further investigation or ask for advice, then get in touch with the Cardiology Team:

cardiology@theralph.vet or call 01628 308330

MEET OUR CARDIOLOGY TEAM...

Luca Ferasin DVM PhD CertVC PGCert(HE) DipECVIM-CA (Cardiology) GPCert(B&PS) FRCVS
European & RCVS Specialist in Veterinary Cardiology

Head of Cardiology

Heidi Ferasin BVSc CertVC MRCVS, RCVS Advanced Practitioner in Veterinary Cardiology

Cardiology Clinician

Laurent Locquet DVM GPCert-Cardiology MRCVS
ECVIM Residency Trained

Cardiology Clinician

Altin Cala DVM, MRCVS

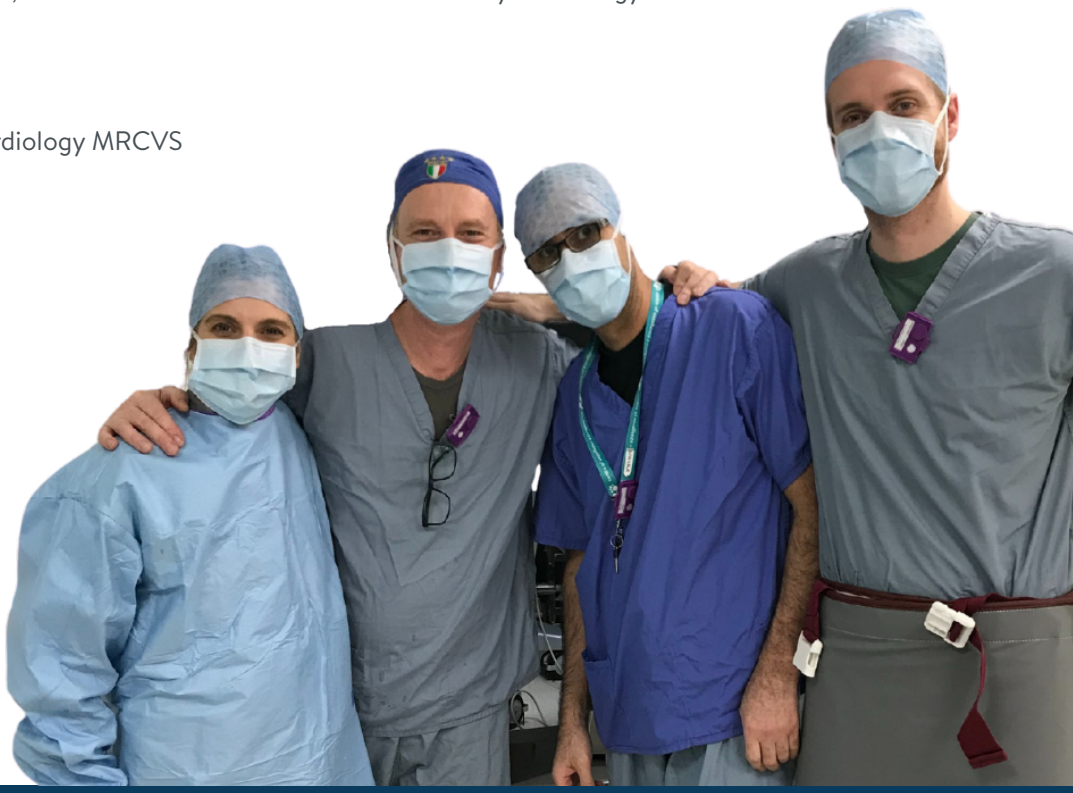
Cardiology Intern

Emma Hudson RVN

Cardiology Nurse

Jo Farminer RVN

Cardiology Nurse



HEART MURMUR CLINIC

The Ralph's Heart Murmur Clinic investigates heart murmurs in otherwise asymptomatic cats and dogs under 6 months of age.

If a congenital heart defect is diagnosed, we will provide recommendations for a care plan to improve the patient's long-term wellbeing. This may include suggesting a minimally invasive cardiac procedure.

THE RALPH HEART MURMUR CLINIC

COST: £195 (INCLUDING VAT)

To make a referral please call 01628 308330 or email heretohelp@theralph.vet

Everything a vet nurse needs to know about Addison's disease... with help from Pudding!

By nurses, for nurses

Our Senior Internal Medicine Nurse, Laura Rosewell, is passionate about helping fellow nurses to develop their knowledge and skills in medicine. Here Laura shares Pudding's story and her tips for caring for patients with Addison's disease.

"3-year-old Pug, Pudding, initially came to The Ralph towards the end of last year. He had been suffering from episodes of vomiting and diarrhoea, lethargy and reduced appetite for around a month. He improved a little with supportive medications, but this improvement was not sustained.

When Pudding arrived at The Ralph, he was lethargic and severely dehydrated with bradycardia and weak pulses. Blood tests showed a dangerous elevation in his potassium level and a reduction in his sodium level. He was treated with high rates of fluid therapy to correct his dehydration and supportive medications to manage his vomiting and diarrhoea.

Our clinical team suspected Pudding had Addison's disease (hypoadrenocorticism)."

WHAT IS ADDISON'S DISEASE?

Hypoadrenocorticism or Addison's disease is characterised by low circulating steroid levels. In most cases, this is caused by immune-mediated adrenalitis, but in rare cases can be caused by necrosis or amyloidosis. It is also seen in patients on excessive doses of Cushing's treatment (trilostane).

When we talk steroids, we are focussing on two main types:

1) Glucocorticoids, e.g. cortisol, produced by the zona fasciculata in the adrenal cortex, and

2) Mineralocorticoids, e.g. aldosterone, produced by the zona glomerulosa in the adrenal cortex.

THE CLINICAL SIGNS

The clinical signs we see in our Addisonian patient depend on whether cortisol, aldosterone or both hormones are deficient.

Addison's disease is termed 'The Great Pretender' as many clinical signs are initially non-specific and easily mistaken for gastrointestinal disease. These include diarrhoea, lethargy, anorexia, dehydration and vomiting, and are associated with cortisol loss. Other signs include PU/PD, abdominal pain and signs of shock.

By nurses, for nurses

Classically, the Addisonian crisis patient presents with lethargy and dehydration/ hypovolaemia, and signs of hyperkalaemia/ hyponatraemia may be apparent, such as bradycardia and cardiac arrhythmias. This is associated with the loss of aldosterone, as this hormone is responsible for retaining sodium and excreting potassium in the kidney. The loss of aldosterone, therefore, causes increased sodium loss, and reduced potassium excretion, causing hyponatraemia and hyperkalaemia.

"Pudding had presented to us in an Addisonian crisis., so we performed an ACTH stimulation test to diagnose his disease. Unfortunately, Pudding's results confirmed our suspicions, and he was diagnosed with Addison's disease."

ACTH STIMULATION TEST:

This is the collection of a baseline serum cortisol sample, followed by a 5mcg/kg injection of synthetic ACTH, and a repeat cortisol sample collected 1-hour post-injection.

A failure to stimulate will be seen in an Addisonian patient.

HOW TO STABILISE THE CRISIS PATIENT

Stabilisation of the Addisonian crisis patient includes some or all of the following, depending on the patient's presentation:

- Protection of the heart from high potassium levels (calcium gluconate administration)

- Fluid resuscitation to correct fluid deficits and metabolic acidosis with an appropriate crystalloid solution

- Administration of glucose to correct hypoglycaemia

- Collection of samples to confirm the diagnosis (before steroids are given as most of these will cross-react with cortisol testing - dexamethasone can be given in an emergency and will not cross-react with an ACTH stimulation test)

- Slow correction of hyponatraemia with fluid therapy (rate of sodium correction should not exceed 0.5mmol/kg/hour)

- Administration of steroids

"Pudding began treatment with Dexamethasone and Hydrocortisone CRI and was then transitioned to long-term management with daily prednisolone and desoxycorticosterone pivalate (Zycortal) injections every 4 weeks. He remained hospitalised in our Dog ICU for 3 days to continue his fluid therapy, steroid injections and close monitoring of his heart. He was discharged back to his family on Christmas Day...

STEPS SHOULD BE TAKEN TO MINIMISE STRESS DURING HOSPITALISATION AS ADDISONIAN PATIENTS CANNOT SURMOUNT AN APPROPRIATE STRESS RESPONSE

Pudding came back for a follow up with our Internal Medicine team in the New Year to discuss long-term management of his Addison's disease. He looked like a different dog! He was much happier, more alert and active, and eating more normally. We performed some blood tests to make sure his medication doses were appropriate, and to provide support and guidance to his family as they adjusted to life with Pudding's new condition.

In the early stages of treatment, regular visits and blood tests were required to make sure the doses of Pudding's medications were appropriate, and to administer his 4-weekly DOCP (Zycortal) injections. At each visit, Pudding looked happier and happier.

Throughout his treatment Pudding has been an absolute star. He has done so well that at his most recent visit, we taught Pudding's family how to administer his steroid injections themselves at home.

Addison's disease is a lifelong condition. Dogs with Addison's disease, like Pudding, require an injection which is given once every 4 weeks. Some also require a steroid tablet to be given every day. This may be lifelong or only during periods of stress. Because dogs with Addison's disease are less able to cope with stress including general illness, they have to be closely monitored, both in the hospital and at home.

In Pudding's case, he will have blood tests performed 2-3 times each year, but will be able to live a normal and happy life."

WANT MORE HINTS AND TIPS TO MAKE MEDICAL NURSING EASIER?

Check out Laura's Instagram:

@vetinternalmedicinenursing

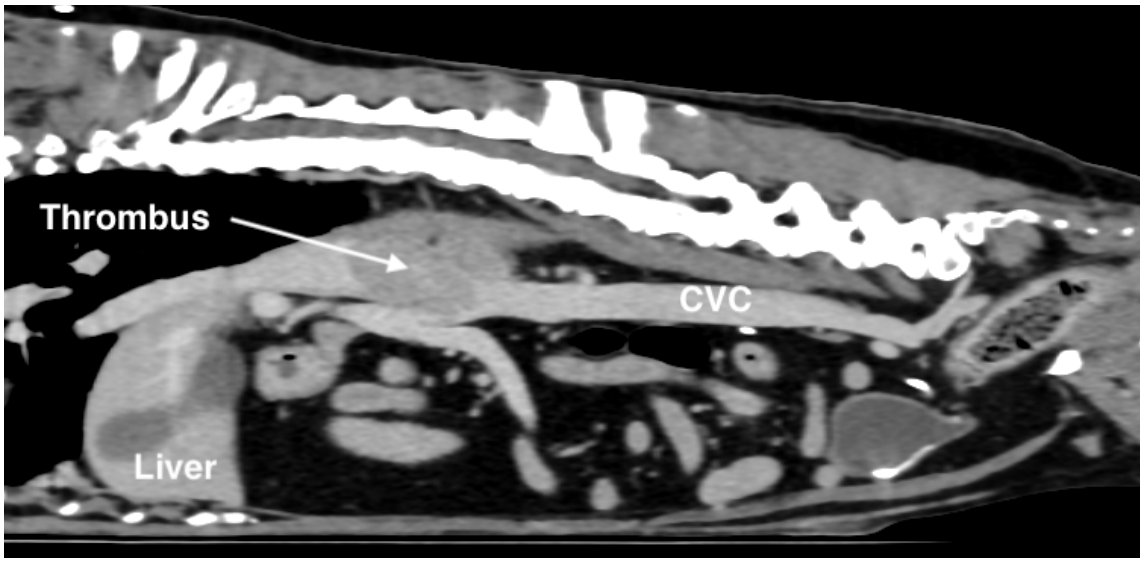
Harry is a 9 year old male neutered Soft Coated Wheaten Terrier who originally presented to The Ralph with a 10-day history of reduced appetite and abdominal pain.

Harry in our dog walking area

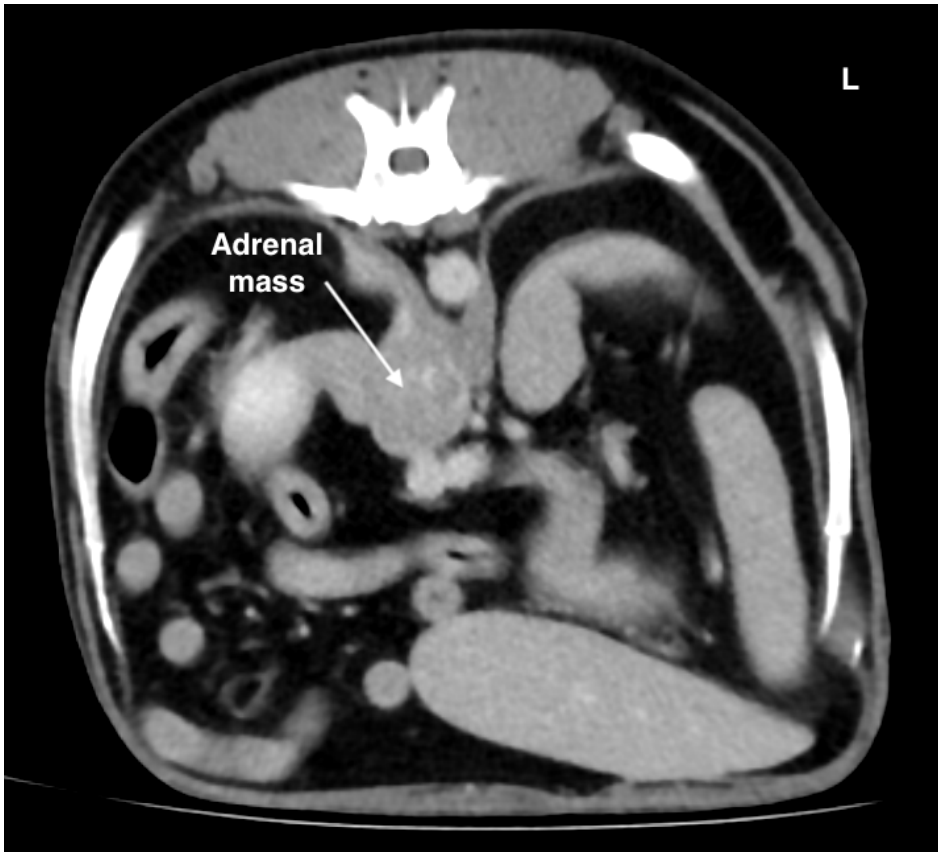
On presentation Harry was dull but alert and responsive. Thoracic auscultation was within normal limits. Abdominal palpation demonstrated pain in the cranial abdomen. Initial haematology tests demonstrated a mild non-regenerative anaemia and an inflammatory leukogram. Biochemistry tests demonstrated a moderately elevated alkaline phosphatase.

Urine analysis demonstrated a marked increase in normetanephrine, which is a urinary marker for a pheochromocytoma. An ACTH stimulation test was not consistent for hyperadrenocorticism.

An abdominal ultrasound was performed. Ultrasonography demonstrated bilateral adrenomegaly, retroperitoneal effusion as well as a thrombus in the caudal vena cava. To further evaluate the adrenal glands a CT scan was performed. CT confirmed bilateral adrenomegaly. The cranial aspect of the right adrenal gland was invading the caudal vena cava creating a large filling defect (tumour thrombus)



CT showing the extent of the tumour thrombus in the CVC



CT showing the right adrenal mass

within the caudal vena cava. The tumour thrombus was filling 95% of the diameter of the caudal vena cava and extending over a length of 6cm cranial to the right adrenal gland. There was no evidence of metastatic disease.

Based on clinical and imaging findings, a pheochromocytoma of the right adrenal gland with invasion into the caudal vena cava was suspected. Harry was prescribed phenoxybenzamine, an adrenergic blocker for two weeks prior to the surgery to reduce the risk of perioperative complications.

Harry was anaesthetised and a standard ventral midline approach was made to the abdominal cavity. The adrenal mass was dissected free until only the attachment to the caudal vena cava was left. Rumel tourniquets were placed cranial and caudal to the caudal vena cava tumour thrombus. The tourniquets were tightened and a venotomy was performed in the caudal vena cava. The thrombus was removed. The venotomy was apposed with non-absorbable monofilament sutures in a continuous suture pattern. The abdominal wall was closed routinely.

Harry recovered well, and was hospitalised for two days following his surgery. Mild subcutaneous oedema of the hindlimbs was evident. This post-operative complication has been reported in the literature; however the exact cause is unknown, but possible causes include stenosis at the venotomy site or thromboembolic disease. At Harry's post-operative check this oedema had resolved with no treatment required.

Histopathology confirmed a pheochromocytoma. The prognosis following surgical excision of a pheochromocytoma varies significantly however with no evidence of metastases, surgical excision can be curative. The Ralph is happy to report that 6 months following surgery, Harry is doing well.

The road to specialism

Ever wondered what it really takes to become a veterinary specialist? Our new Internal Medicine specialist, Cecilia Stilwell, shares her journey from vet student to specialist...

WHAT INSPIRED YOU TO BECOME A SPECIALIST?

It all started during my Oncology rotation in my final year of vet school. I was fascinated by how much specialists can do for animals and enjoyed the 'buzzy' hospital atmosphere. As the week went on I started to think that I might consider a future career as a specialist. I was then happy to hear in my end of rotation appraisal that my supervisors had independently reached the same conclusion.

WHAT DID YOU DO AFTER VET SCHOOL?

After a few months of much needed rest and relaxation from the intense learning at vet school in Glasgow, I started my first job at a wonderful, busy, small animal practice near Reading. I worked there for about 18 months and it was during this time that my interest in Internal Medicine really took off.

WHERE DID YOUR INTEREST IN INTERNAL MEDICINE TAKE YOU?

I then completed a 12-month rotating internship at Dick White Referrals, Cambridgeshire. It was a really strange experience at first. You have to adjust from being a vet who has a lot of responsibility working through a busy list of 10-15 minute consultations, to having less responsibility and mainly learning about the specialties through observation and assisting (I felt like I was a final year vet student again...but paid this time!).

Once I had made the adjustment, I really enjoyed the internship. It was there that I started to develop skills in the 'problem-orientated approach' that is key to working up medical cases. I was also able to complete a postgraduate certificate in association with the University of Nottingham, which helped to provide structure to the internship and develop my skills in writing case reports and conducting research.

Cecilia joins fellow specialists

ANNELIES WILLEMS, ELISE ROBERTSON AND HEATHER COVEY

in our Internal Medicine team

TELL US ABOUT YOUR RESIDENCY...

Shortly after my internship, I was fortunate to be able to return to Dick White Referrals where I completed a 3-year residency in Internal Medicine.

I'm sure anyone who has undertaken a residency would agree, they are tough – long hours, high caseloads, a mountain of information to learn in what seems to be no time at all and not much time for a social life, but it was definitely worth it. I was able to work in a lovely and supportive medicine team, see a plethora of cases in a discipline I am truly passionate about and honed my practical skills, thanks to the high case load and intensive learning environment.

WHAT ADVICE WOULD YOU GIVE TO SOMEONE THINKING ABOUT SPECIALISING?

The first thing is to do a 12-month rotating internship in a multi-disciplinary referral hospital. This allows you to get a glimpse of life in a speciality setting, confirm if it is the right path for you and which area you would like to specialise in. It is also a requirement for most residency programmes.

WHAT'S BEEN YOUR MOMENT OF GLORY ON THIS JOURNEY?

There have been many highlights already, including having my first peer-reviewed article published, getting the residency and draining my first pericardial effusion. But ultimately the biggest highlight has been finishing my residency and passing the certifying examinations.

If you have a question, or require some advice on a case please complete our Medicine Advice Form which you can find at theralph.vet/services/internal-medicine

ANIMATIONS FOR PET CARERS...

We've started a series of short animated videos to help pet carers understand common conditions and treatment. So far we've covered cranial cruciate ligament ruptures and TPLOs, and the general anaesthesia process.

Find the videos on OUR WEBSITE | OUR YOUTUBE | OUR SOCIAL MEDIA

Psst... we've fixed our TPLO prices

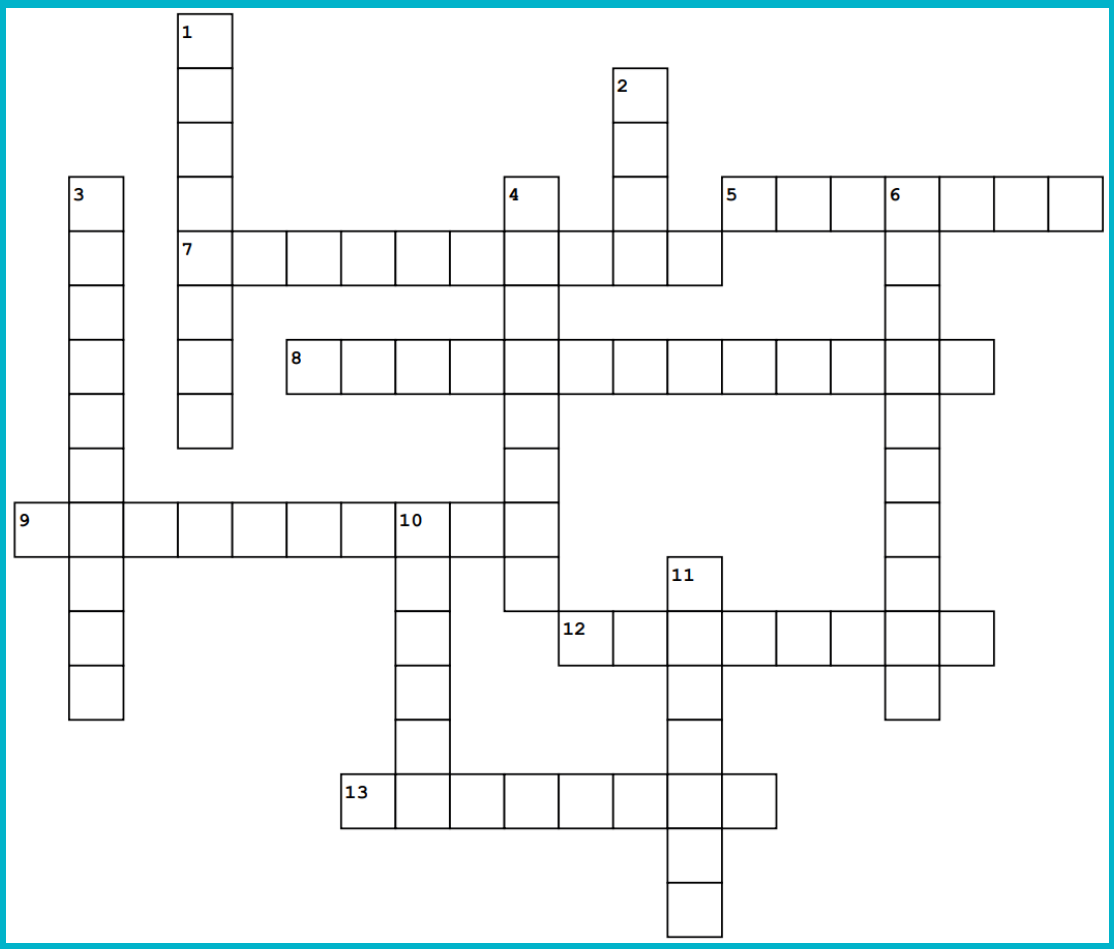
UNDER 20KG - £3,400
20 - 40KG - £3,600
OVER 40KG - £3,800

Prices include VAT

As an independent hospital we remain open to conversations with you and your patient's families about finances. If there is ever any doubt or concern about the cost of treatment, please give us a call on 01628 308330. **We are always here to help.**

CROSSWORD TIME

This edition's crossword focuses on the seasonal conditions of brachycephalic obstructive airway syndrome (BOAS) and laryngeal paralysis.
Grab a cuppa, nestle in and have a go!



ACROSS

5. Wheezing sound caused by disrupted airflow

7. Surgery to widen the nostrils

8. Most common canine brachycephalic breed

9. Fleshy tissue at the back of the roof of the mouth

12. Abnormally constricted nares

13. A bluish colour of the skin and the mucous membranes due to insufficient oxygen in the blood

DOWN

1. Difficult, laboured breathing

2. Seasonal BOAS trigger factor

3. Laryngeal paralysis is the failure of the ------ to abduct during inspiration

4. Air sacs located between the vocal folds and laryngeal wall

6. Most common cause of laryngeal paralysis

10. Brachycephalic Obstructive ----- Syndrome

11. Common feline brachycephalic breed

Find the answers at **theralph.vet/answers** or scan this QR code:

FREE CPD ON OUR WEBSITE

A collection of CPD content from our team to you. Topics include: BOAS and laryngeal paralysis, tips and tricks for the emergency room, thoracic limb examination, medical oncology, idiopathic epilepsy and management of cardiac patients.

Check it out via the Library + Learning page on our website.

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