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Julie / July 2021

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Die Maandblad van die SUID-AFRIKAANSE VETERINÊRE VERENIGING



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Contents | Inhoud

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STREET ADDRESS
47 Gemsbok Avenue, Monument Park, Pretoria, 0181, South Africa

POSTAL ADDRESS
P O Box 25033, Monument Park Pretoria, 0105, South Africa

TELEPHONE
+27 (0)12 346-1150

FAX
General: +27 (0) 86 683 1839
Accounts: +27 (0) 86 509 2015

WEB
www.sava.co.za

CHANGE OF ADDRESS
Please notify the SAVA by email: debbie@sava.co.za or letter: SAVA, P O Box 25033, Monument Park, Pretoria, 0105, South Africa

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(Text to a maximum of 80 words)
Sonja van Rooyen
assistant@sava.co.za
+27 (0)12 346 1150

DISPLAY ADVERTISEMENTS
Sonja van Rooyen
assistant@sava.co.za
+27 (0)12 346 1150

DESIGN AND LAYOUT
Sonja van Rooyen

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Articles / Artikels

6 **How virus detectives trace the origins of an outbreak – and why it's so tricky**
9 **Chronic & Persistent Coughing in a Dog**
13 **How a handful of veterinarians saved millions of human lives and eradicated a disease from the Earth – Part 1**
17 **Immobilising lions**
18 **Bionic Reconstruction: New Foot For Mia The Bearded Vulture**
19 **How an elephant's trunk manipulates air to eat and drink**

Regulars / Gereeld

2 **From the President / Van die President**
4 **Reflections from a Dam Wall**

Vet's Health / Gesondheid

26 **Life Coaching**

Association / Vereniging

20 **SAVA Branch News**
22 **CVC News**
24 **SAVA News**

Member News / Lede Nuus

25 **In Memoriam**

Technical / Tegnies

28 **Physical Rehab**
30 **Ophthalmology Column**
32 **Zoetis Pages**

Recent Clinically Relevant Research from Around the World

36 **Canine**
38 **Camelid**
39 **Equine**

News in Brief

40 **Water may be an effective treatment for metabolic syndrome**
40 **NIH Scientists identify nutrient that helps prevent bacterial infection**

Relax / Ontspan

34 **Recollections 47: Animal Doctor Again**
48 **Life Plus 21**

Marketplace / Markplein

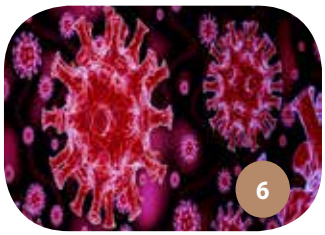
41 **Marketplace**

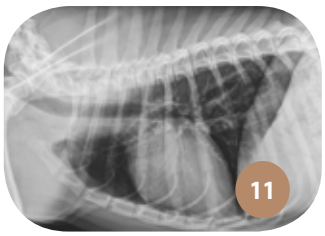
Jobs / Poste

42 **Marketplace/Jobs / Poste**
45 **Classifieds / Snuffeladvertensies**

Diary / Dagboek

47 **Dagboek • Diary**









President: Dr Leon de Bruyn — president@sava.co.za
Managing Director: Mr Gert Steyn — md@sava.co.za/ +27 (0)12 346 1150
Editor VetNews: Dr Paul van Dam — vetnews@sava.co.za
Bookkeeper: Ms Susan Heine — accounts@sava.co.za/+27 (0)12 346 1150
Bookkeeper's Assistant: Ms Sonja Ludik — bookkeeper@sava.co.za/+27 (0)12 346 1150
Secretary: Ms Elize Nicholas — elize@sava.co.za/ +27 (0)12 346 1150
Reception: Ms Hanlie Swart — reception@sava.co.za/ +27 (0)12 346 1150
Marketing & Communications: Ms Sonja van Rooyen — marketing@sava.co.za/ +27 (0)12 346 1150
Membership Enquiries: Ms Debbie Breeze — debbie@sava.co.za/ +27 (0)12 346 1150
Vaccination booklets: Ms Debbie Breeze — debbie@sava.co.za/ +27 (0)12 346 1150
South African Veterinary Foundation: Ms Debbie Breeze — savf@sava.co.za/ +27 (0)12 346 1150
Community Veterinary Clinics: Ms Claudia Cloete — cvcmanager@sava.co.za/ +27 (0)63 110 7559
SAVETCON: Ms Corné Engelbrecht — corne@savetcon.co.za/ +27 (0)71 587 2950



Leon de Bruyn

Greetings, Colleagues!

As winter of 2021 bites with cold the third wave of the COVID-19 pandemic is definitely upon us in our country. To SAVA and the Chief Veterinary Officer`s continued frustration, we have yet to receive confirmation from the Department of Health that the omission of vets from the phase 2 of the COVID vaccine roll-out essential workers list will be rectified.

In fact, we never even received an acknowledgement of receipt from the DoH for any of our letters sent in January and again in May. We have noted and agree with the addition of teachers to the list as they are also at risk. Please rest assured that the SAVA and DALRRD leadership will continue to fight for the right to protect our profession from this viral threat.

The SAVA awards committee had a productive meeting on the 4th of June. Thank you to chair Prof Gareth Bath for his expert leadership as well as Dr`s Rudolph Bigalke, Ivan Lwanga-Iga and Clive Marwick for serving on this important committee. SAVA President-elect Col Dr Paul van der Merwe, MD Gert Steyn and I also contribute as ex-officio members. We are particularly grateful to Dr Bigalke and SAVA Secretary Mrs Elize Nicholas for their efforts in drafting citations and compiling nominations for our awards. The awards committee will be making recommendations to SAVA FedCo for our 2021 Awards.

The SAVA board of directors is due to meet on the 23rd of June where we will discuss numerous important matters affecting our association and profession. Hopefully we will soon have good news regarding the vacant position of Director of Finance. Dr van der Merwe will represent SAVA as a keynote speaker at the annual SAVC Indaba on the 25th of June, although level 3 COVID-19 lockdown protocols are creating hassles in terms of restricting in person versus virtual attendance. We will hopefully soon also have progress in the appointment of a successor to outgoing VetNews editor Dr Paul van Dam. We are continuing to battle to source articles from our SAVA groups and branches. Please note that submissions don`t have to be specialist journal quality papers. We want our magazine to live up to its name. Please feel free to submit items of interest and newsworthy events that colleagues will appreciate reading. Thank you to those who continue to contribute.

June has been a sad month with the passing of Prof Tubby Veary after an illness and the tragic fatal shooting of Dr Corli van der Walt. Our deepest sympathies and prayers of comfort are with their families and other loved ones. At the time of writing, SAVA and RuVASA stalwart, Dr Faffa Malan, has suddenly taken ill with a mysterious infection, and is on a ventilator in ICU. Our thoughts and prayers are with Faffa for a speedy and full recovery.

The corona virus pandemic, winter, the losses we are experiencing, as well as the usual rigors of veterinary practice, are all stressors that can have a negative impact on our mental and emotional wellbeing. Please feel free to contact our SAVA crisis counseling hotline if you are taking strain. Please also be aware of stressed colleagues that may be in need of support in these challenging times. We must commend our colleagues at the Namibian Veterinary Council and Hill's Pet Nutrition for organising a mental health day presented by Birgit Hoffmann at the Windhoek Showgrounds on the 26th of June, focusing on stress management and burnout prevention. A worthwhile initiative indeed! Thank you to the colleagues who man our SAVA crisis hotline and the SAVA-SAVC mentors who assist our young colleagues in navigating the challenges of their CCS year. The last few years have also been particularly challenging as far as controlled animal diseases are concerned. The DALRRD has been battling with increased outbreaks of foot and mouth disease (FMD), rabies, bovine brucellosis (CA), African horse sickness (AHS), African swine fever (ASF) and highly pathogenic avian influenza (HPAI), some in unusual localities. SAVA has offered assistance to the Directorate of Animal Health, as well as utilised our full membership of the National Animal Health Forum (NAHF), to engage with the DALRRD, as well as other stakeholders. Together we continue to collaborate in the control of these and other diseases, as well as building on the One Health (OH) concept.

Don`t forget to register and download our SAVA D6 communicator App which we launched in April. Vets are notorious for neither reading nor responding to emails, yet we check our phones regularly. The D6 App provides you with an excellent interactive opportunity to receive important general as well as specific tailored information from SAVA, as well as optimise your member benefits. All members should have received SMS`s to register, as well as an email detailing download instructions. Please sign up and see what more SAVA can do for you. One vital lesson we have learnt in this pandemic is that we are not alone. Even when we were forced into isolation in COVID-19 level 5 lockdown, we knew that we were enduring it together. For our profession there has been the positive spin-off of increased collaboration between role-players in the veterinary space.

We appreciate that we have colleagues, families, friends and other loved ones who support one another in times of crisis. Those of us of faith, find peace in the knowledge that we have a Lord God whose faithfulness and steadfast love endure forever.

Yours in togetherness,

Leon

Gegroet, Kollegas!

Terwyl die 2021 winterkoue behoorlik byt, is die derde vlaag van die COVID-9 pandemie nou in volle swang in ons land.

Tot die SAVV en die hoofveearts se voortgesette frustrasie het ons steeds nie bevestiging van die Departement van Gesondheid ontvang dat die weglating van veeartse as noodsaaklike werkers uit fase 2 van die COVID-inentingsveldtog reggestel sal word nie.

Inteendeel, ons het nie eens erkenning van ontvangs vir ons briewe van Januarie en Mei van die Departement gekry nie. Ons het kennis geneem daarvan dat onderwysers nou by die lys ingesluit is, en stem daarmee saam omdat hul ook blootgestel is. Wees asseblief verseker dat die SAVV en DLGHLO se leierskap sal aanhou baklei vir die reg om ons professie teen die virus te beskerm.

Die SAVV se toekenningskomitee het op 4 Junie 'n produktiewe vergadering gehou. Dankie aan die voorsitter, Prof Gareth Bath vir sy besondere leierskap en ook aan Drs Rudolph Bigalke, Ivan Lwanga-Iga en Clive Marwick wat as lede van die komitee dien.

Die SAVV vise-president Kol Dr Paul van der Merwe, bestuderende direkteur Gert Steyn en ek het ook as ex-officio komiteelede 'n bydrae gemaak. Ons is veral dank verskuldig aan Dr Bigalke en SAVV sekretaresse Elize Nicholas vir hul werk met die opstel van sitate en saamstel van nominasies vir die toekennings. Die toekenningskomitee sal aanbevelings vir die 2021 toekennings aan FedCo voorlê.

Die SAVV direksie sal op 23 Junie vergader en verskeie belangrike sake wat ons vereniging en professie raak tydens die vergadering bespreek. Hopelik sal ons binnekort goeie nuus hê rakende die vakante finansies-direkteur posisie. Dr van der Merwe sal die SAVV verteenwoordig as hoofspreker tydens die SAVR Indaba op 25 Junie. Ongelukkig het die vlak 3 inperkingsmaatreëls die bywoning in persoon van die Indaba erg in die wiele gery.

Ons sal hopelik ook binnekort vordering maak met die aanstelling van 'n opvolger vir die uitgaande VetNuusredakteur, dr Paul van Dam. Ons sukkel steeds om artikels vanaf die SAVV groepe en takke te kry.

Neem kennis dat die bydraes nie van spesialis-joernaal kwaliteit hoef te wees nie. Ons wil graag hê dat ons tydskrif sy naam gestand doen. Voel dus vry om kort berigte wat vir die professie interessant sal wees sowel as oor nuuswaardige geleenthede wat ons kollegas graag sal wil lees in te dien. Dankie aan die wat steeds bydra.

Junie het ook sy hartseer gehad met die afsterwe van Prof Tubby Veary na 'n siekbed en die tragiese moord op Dr Corli van der Walt. Ons innige simpatie en gebede is met hul families en ander geliefdes. Terwyl ek hierdie skryf is die SAVV en RuVASA staatmaker, Dr Faffa Malan met 'n misterieuse infeksie opgeneem en tans op 'n ventilator in intensiewe sorg. Hy is ook in ons gedagtes en gebede en ons hoop op spoedige en volkome herstel.

Die coronaviruspandemie, winter, die verliese wat ons ly en die normale uitdagings van die veeartsenypraktyk is alles stressors wat 'n negatiewe impak op ons geestes- en emosionele welsyn kan hê. Voel vry om die SAVV se krisis-inbellyn te kontak as dit voel of alles te veel raak. Wees ook bewus daarvan dat kollegas naby jou dalk ondersteuning tydens hierdie uitdagende tye sal nodig hê. Ons prys ook ons Namibiese kollegas en Hill's Troeteldiervoeding wat 'n geestesgesondheidsdag, aangebied deur Birgit Hoffmann, op 26 Junie by die Windhoek Skougronde gehou het.

Die fokus was op die hantering van stress en voorkoming van uitbranding. Werklik prysenswaardig! Dankie aan ons kollegas wat die krisis-inbellyn beman en ook aan die SAVV-SAVR mentors wat ons jong kollegas help om die uitdagings van die VGD-jaar te bowe te kom.

Die laaste paar jaar het ook groot uitdagings rakende beheerde dieresiektes opgelewer. Die DLGHLO moes toenemende uitbreke van bek-en-klouseer, hondsdolheid, besmetlike misgeboorte, Afrika perdesiekte, Afrika varkpes en hoogs-patogene voëlgriep, sommige op ongewone plekke, te bowe kom.

Die SAVV het sy steun aan die DLGHLO toegesê en ook ons volle lidmaaatskap van die Nasionale Dieregesondheidsforum gebruik om met die DLGHLO en ander rolspelers in gesprek te tree. Goeie samewerking is nodig om die siektes te beheer en om ook die "Eén Gesondheidkonsep" uit te bou.

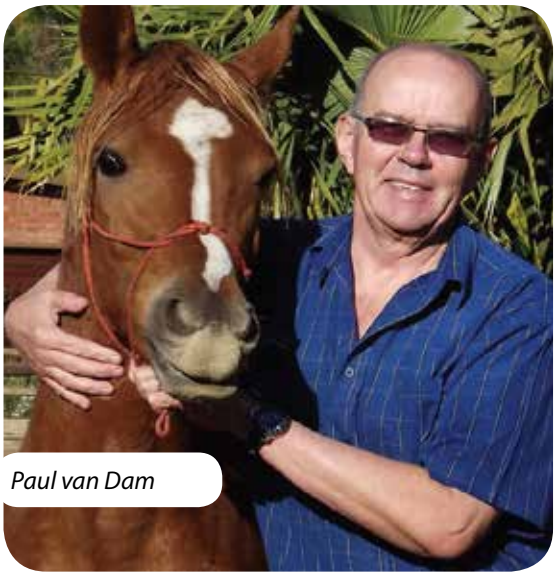
Moenie vergeet om te registreer vir die SAVV D6 kommunikator App en om dit af te laai nie. Veeartse is bekend daarvoor dar hul nie e-posse lees of daarop reageer nie, maar ons kyk gereeld na wat op ons fone aangaan. Die D6 App verskaf 'n uitstekende interaktiewe platform om belangrike algemene sowel as SAVV-spesifieke inligting te ontvang en om jou lidmaatskapvoordele te optimiseer. Alle lede het 'n SMS ontvang waarin hul gevra word om te registreer, sowel as 'n e-pos met aflaai-instruksies. Maak asseblief gebruik hiervan en sien so wat die SAVV vir jou doen.

Een belangrike les wat ons tydens die pandemie geleer het is dat ons nooit alleen is nie. Selfs wanneer ons in isolasie ingedwing word, soos tydens die vlak 5 inperkings het ons geweet dat ons dit saam moet deurmaak. 'n Positiewe newe-effek van die pandemie vir ons professie is die verbeterde samewerking tussen die verskeie rolspelers in die veeartseny-omgewing.

Ons waardeer dit dat ons kollegas, families, vriende en ander geliefdes het wat mekaar gedurende krisisse kan ondersteun. Die van ons wat glo vind vrede in die wete dat ons 'n Here God het wie se getrouheid en standvastige liefde vir altyd sal vasstaan.

Groete, in samesyn,

Leon



Paul van Dam

Reflections from a **Dam Wall**

Busy.

How often do I hear this word! According to the Cambridge dictionary, if you are busy, you are working hard, or giving your attention to a particular thing. Sounds good. But is it true? Is this another word that, over time, has been so abused that its new meaning is completely different to what the dictionary tells us?

There also is "if you want something done, ask a busy person".

Busy people always seem to have the time to add another task to their lists. And when this phrase was coined, it probably was true that busy guys also produced results, did not mind to take on more, and managed to still get everything done.

Perhaps this is still true for the really busy people - that they also are productive.
Alas, the word "busy" has become an excuse.

One of the definitions in the urban dictionary describes it as a "non-descript excuse someone gives you when they are trying to get out of meeting or spending time with you" – and one can probably add "or doing something for you".

There also is another that gives the meaning as "attempting to seem important, and not being shy about it" – referring to those people who use the word busy because they regard it as a synonym for "important" (which does pose the question – are important people necessarily busy?).

Perhaps, in our day, "if you want something done, DO NOT ask a busy person". Because in today's world, the "busy" person actually only uses the word as an excuse not to something.

Does it mean that "busy" people actually are only interested in themselves and in activities that "have something for me"?
During my time as editor of VetNews, the word busy often was used in a reply to one of my emails.

When a deadline was missed, it was because the person was "busy". When someone was asked for a contribution, he was "too busy". Or worse, when a group or branch was asked, the reply was that our members are all "busy".

Wikipedia states that the phrase "four-letter word" refers to a set of English-language words written with four letters which are considered profane. The "four-letter" claim refers to the fact that many (but not all) English "swear words" are incidentally four-character monosyllables.

To me, "busy" has become such a word.

Please stay warm and healthy.

Regards,

Paul van Dam



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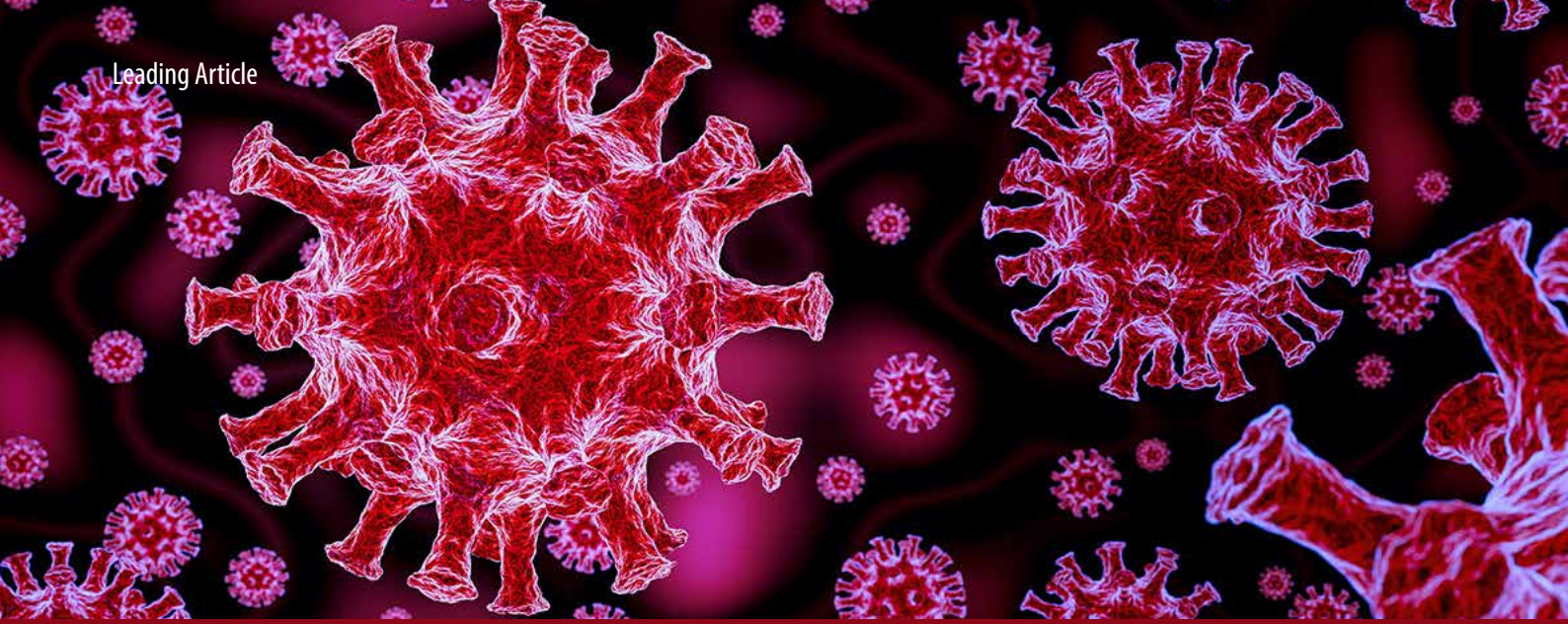
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How virus detectives trace the origins of an outbreak – and why it's so tricky

Marilyn J. Roossinck

Professor of Plant Pathology and Environmental Microbiology, Penn State

(Source: www.theconversation.com. First published on 7 June 2021)

Every time there is a major disease outbreak, one of the first questions scientists and the public ask is: "Where did this come from?"

In order to predict and prevent future pandemics like COVID-19, researchers need to find the origin of the viruses that cause them. This is not a trivial task. The origin of HIV was not clear until 20 years after it spread around the world. Scientists still don't know the origin of Ebola, even though it has caused periodic epidemics since the 1970s.

As an expert in viral ecology, I am often asked how scientists trace the origins of a virus. In my work, I have found many new viruses and some well-known pathogens that infect wild plants without causing any disease. Plant, animal or human, the methods are largely the same. Tracking down the origins of a virus involves a combination of extensive fieldwork, thorough lab testing and quite a bit of luck.

Viruses jump from wild animal hosts to humans

Many viruses and other disease agents that infect people originate in animals. It might be tempting to start the viral origin search by testing sick animals at the site of the first known human infection, but wild hosts often don't show any symptoms. Viruses and their hosts adapt to each other over time, so viruses often don't cause obvious disease symptoms until they've jumped to a new host species. Researchers can't just look for sick animals.Another problem is that people and their food animals aren't stationary. The place where researchers find the first infected person is not necessarily close to the place where the virus first emerged.

In the case of COVID-19, bats were an obvious first place to look. They're known hosts for many coronaviruses and are the probable source of other zoonotic diseases like SARS and MERS.

For SARS-CoV-2, the virus that causes COVID-19, the nearest relative scientists have found so far is BatCoV RaTG13. This virus is part of a collection of bat coronaviruses discovered in 2011 and 2012 by virologists from the Wuhan Virology Institute. The virologists were looking for SARS-related coronaviruses in bats after the SARS-CoV-1 pandemic in 2003. They collected faecal samples and throat swabs from bats at a site in Yunnan Province about 1,500 kilometres from



Photo: Roshan Patel, Smithsonian's National Zoo and Conservation Biology Institute

the institute's lab in Wuhan, where they brought samples back for further study. To test whether the bat coronaviruses could spread into people, researchers infected monkey kidney cells and human tumour-derived cells with the Yunnan samples. They found that a number of the viruses from this collection could replicate in the human cells, meaning they could potentially be transmitted directly from bats to humans without an intermediate host. Bats and people don't come into direct contact very often, however, so an intermediate host is still quite likely.

Finding the nearest relatives

The next step is to determine how closely related a suspected wildlife virus is to the one infecting humans. Scientists do this by figuring out the genetic sequence of the virus, which involves determining the order of the basic building blocks, or nucleotides, that make up the genome. The more nucleotides two genetic sequences share, the more closely related they are.

Genetic sequencing of bat coronavirus RaTG13 showed it to be over 96% identical to SARS-CoV-2. This level of similarity means that RaTG13 is a pretty close relative to SARS-CoV-2, confirming that SARS-CoV-2 probably originated in bats, but is still too distant to be a direct ancestor. There likely was another host that caught the virus from bats and passed it on to humans.

Because some of the earliest cases of COVID-19 were found in people associated with the wildlife market in Wuhan, there was speculation that a wild animal from this market was the intermediate host between bats and humans. However, researchers never found the coronavirus in animals from the market.

Likewise, when a related coronavirus was identified in pangolins confiscated in an anti-smuggling operation in southern China, many leaped to the conclusion that SARS-CoV-2 had jumped from bats to pangolins to humans. The pangolin virus was found to be only 91% identical to SARS-CoV-2, though, making it unlikely to be a direct ancestor of the human virus.

To pinpoint the origin of SARS-CoV-2, a lot more wild samples need to be collected. This is a difficult task – sampling bats is time-consuming and requires strict precautions against accidental infection. Since SARS-related coronaviruses are found in bats across Asia, including Thailand and Japan, it's a very big haystack to search for a very small needle.



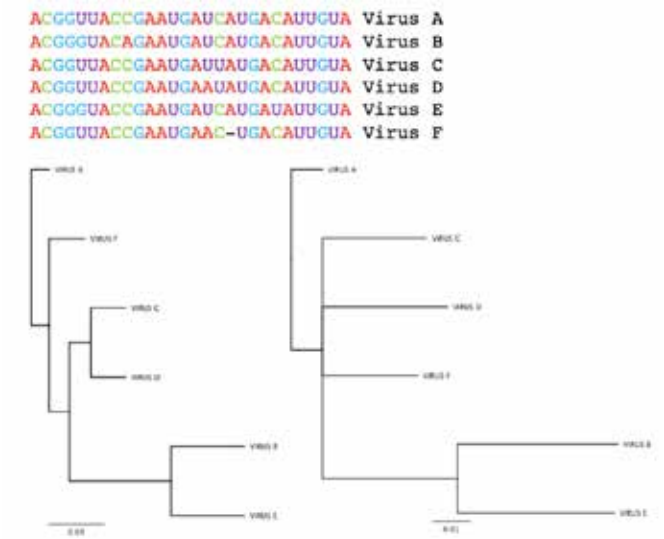
A challenge in viral origin tracing is the wide range of human and animal samples that need to be collected and tested.

Creating a family tree for SARS-CoV-2

In order to sort out the puzzle of viral origins and movement, scientists not only have to find the missing pieces, but also figure out how they all fit together. This requires collecting viral samples from human infections and comparing those genetic sequences both to each other and to other animal-derived viruses.

To determine how these viral samples are related to each other, researchers use computer tools to construct the virus's family tree, or phylogeny. Researchers compare the genetic sequences of each viral sample and construct relationships by aligning and ranking genetic similarities and differences. The direct ancestor to the virus, sharing the greatest genetic similarity, could be thought of as its parent. Variants sharing that same parent sequence but with enough changes to make them distinct from each other are like siblings. In the case of SARS-CoV-2, the South African variant, B.1.351, and the U.K. variant, B.1.1.7, are siblings.

Building a family tree is complicated by the fact that different analysis parameters can give different results: The same set of genetic sequences can produce two very different family trees.



Example of two different phylogenetic trees constructed for the same genetic sequences. The nucleotide sequences of six fictional viruses are shown on the top. Below are two family trees of these viruses created using two different programs. The tree on the left uses only percent identity, while the tree on the right also considers whether the two sequences share similar characters. Marilyn Roossinck, CC BY-ND

For SARS-CoV-2, phylogenetic analysis proves particularly difficult. Though tens of thousands of SARS-CoV-2 sequences are now available, they don't differ from one another enough to form a clear picture of how they're related to each other.

The current debate: Wild host or lab spillover?

Could SARS-CoV-2 have been released from a research lab? Although current evidence implies that this is not the case, 18 prominent virologists recently suggested that this question should be further investigated.

>>> 8

How virus detectives trace the origins of an outbreak... <<< 7

Although there has been speculation about SARS-CoV-2 being engineered in a lab, this possibility seems highly unlikely. When comparing the genetic sequence of wild RaTG13 with SARS-CoV-2, differences are randomly spread across the genome. In an engineered virus, there would be clear blocks of changes that represent introduced sequences from a different viral source.

There is one unique sequence in the SARS-CoV-2 genome that codes for a part of the spike protein that seems to play an important role in infecting people. Interestingly, a similar sequence is found in the MERS coronavirus that causes a disease similar to COVID-19.

Though it is not clear how SARS-CoV-2 acquired these sequences, viral evolution suggests they arose from natural processes. Viruses accumulate changes either by genetic exchange with other viruses and their hosts, or by random mistakes during replication. Viruses that gain a genetic change that gives them a reproductive advantage would typically continue to pass it on through replication. That MERS and SARS-CoV-2 share a similar sequence in this part of the genome suggests that it naturally evolved in both and spread because it helps them infect human cells.

Where to go from here?

Figuring out the origin of SARS-CoV-2 could give us clues to understand and predict future pandemics, but we may never know exactly where it came from. Regardless of how the SARS-CoV-2 jumped into humans, it's here now, and it's probably here to stay. Going forward, researchers need to continue monitoring its spread, and get as many people vaccinated as possible.

THE CONVERSATION

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Chronic & Persistent Coughing in a Dog

Douglas Palma, DVM, DACVIM (SAIM), The Animal Medical Center, New York, New York

PEER REVIEWED

(First published in Clinician's Brief, September 2020. Reprinted with permission).

Clinical History & Signalment

Louie, an 11-year-old, 24-kg neutered male Labrador retriever–poodle crossbreed, was presented for intense, productive coughing, gagging, and retching of 8 days' duration. He had no known travel history or recent exposure to other dogs, and he was current on vaccinations (and heartworm preventive). His owners reported no chronic respiratory signs, including voice change and/or coughing or gagging while eating or drinking.

Physical Examination

On physical examination, Louie was bright, alert, and responsive. Vital signs were within normal limits. His temperature was 38.5°C, heart rate was 80 bpm, respiratory rate was 30 bpm with normal effort, and capillary refill time was <2 seconds. Cardiac, pulmonary, laryngeal, and tracheal auscultation were all normal. No ocular or nasal discharge was present. Mild tracheal sensitivity was noted on direct palpation; abdominal palpation was normal. Several freely movable, homogeneous, subcutaneous masses were appreciated.

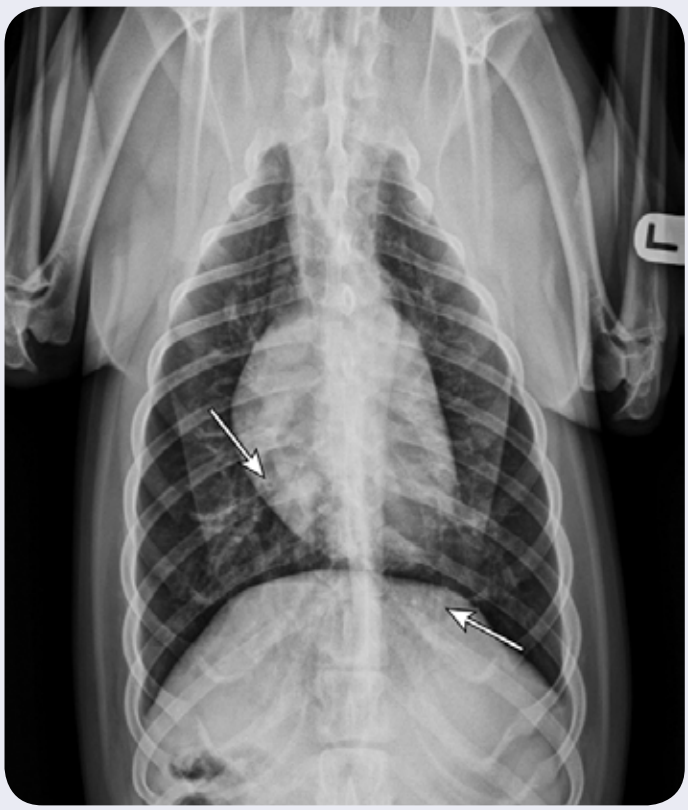
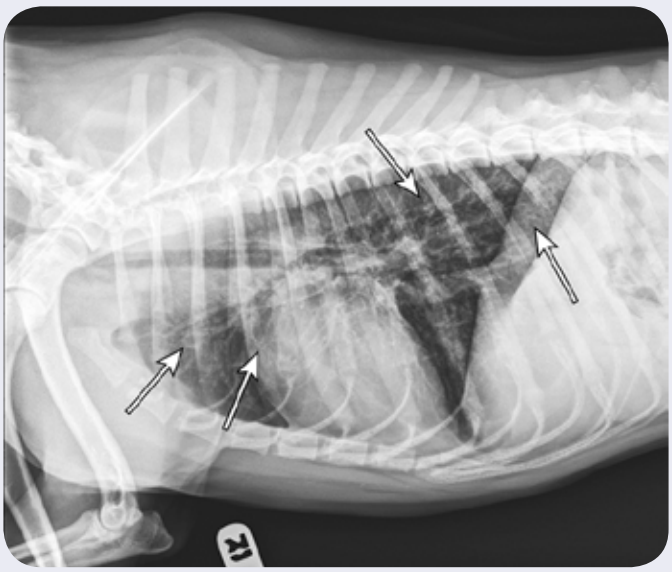


FIGURE 1 Thoracic radiographs showing a characteristic diffuse, patchy bronchointerstitial pattern (arrows)



Diagnosis

Differential diagnoses for acute onset cough should include canine infectious respiratory disease complex, pulmonary oedema (cardiogenic or noncardiogenic), tracheal collapse, aspiration tracheitis/pneumonia, eosinophilic bronchopneumopathy (EBP), inhaled foreign bodies, and infectious disease (e.g., fungal, protozoal, parasitic). Additional considerations include acute presentations of chronic processes, including bronchitis (e.g., eosinophilic, chronic) or neoplasia.

Canine infectious respiratory disease complex was considered less likely based on lack of exposure to other dogs. Tracheal collapse and lung lobe torsion were of lower likelihood due to signalment, and fungal disease was considered less likely due to age and lack of exposure to enzootic areas. Heartworm disease was considered less likely based on chronic heartworm preventive administration, annual heartworm testing, and low geographic prevalence. Pulmonary oedema was considered unlikely based on normal pulmonary auscultation, lack of heart murmur, and normal respiratory effort.

Thoracic radiographs revealed a moderate, diffuse, bronchointerstitial pattern (Figure 1). The cardiac silhouette, pulmonary vasculature, and extrathoracic structures were normal.

Airway sampling via bronchoscopy was recommended based on radiographic findings. CBC and serum chemistry profile were performed prior to sedation. Serum chemistry results were within normal limits. CBC revealed leukocytosis (24.3 x 103/µL; normal range, 4.9-17.6 x 103/µL) characterised by marked eosinophilia

>>> 10

(10.4 x 103/µL; normal range, 0.07-1.49 x 103/µL), monocytosis (1.4 x 103/µL; normal range, 0.13-1.15 x 103/µL), and band neutrophilia (729/µL; normal range, 0-170/µL). Heartworm antigen test was negative.

Bronchoscopic visualisation revealed a moderate amount of thick, adherent, greenish-yellow mucus in the trachea and secondary and tertiary bronchi; mucosa was moderately irregular and erythematous (Figure 2). There was no evidence of airway collapse. Samples were collected via bronchoalveolar lavage for cytology, aerobic culture, and *Mycoplasma* spp culture.

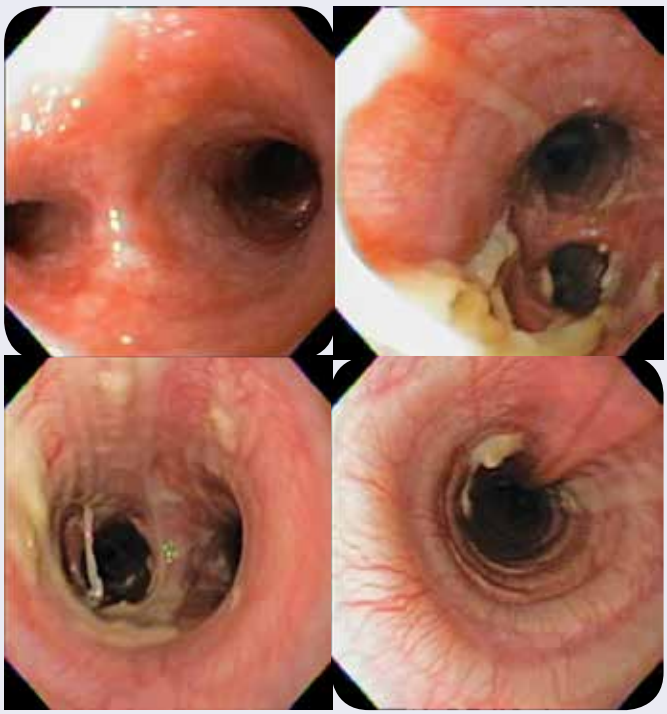


FIGURE 2 Bronchoscopy results demonstrating mucosal irregularity, hyperaemia, and characteristic greenish-yellow airway exudate

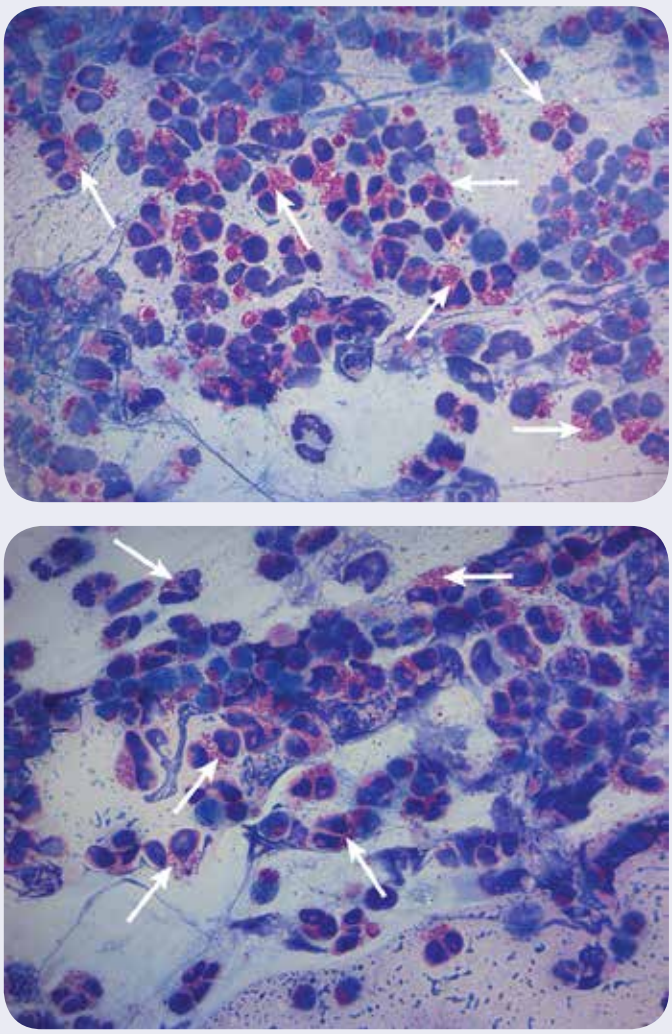


FIGURE 3 Characteristic cytologic eosinophilic inflammation. Pink granules typical of eosinophils can be seen (arrows).

Cytologic evaluation revealed a marked eosinophilic inflammatory response with no evidence of bacteria or sepsis; eosinophils made up 96% of total nucleated cells.

The remaining cells were consistent with nondegenerate neutrophils (2%) and alveolar macrophages (2%) (Figure 3). *Mycoplasma* spp culture was negative. Aerobic culture demonstrated small growth of *Citrobacter freundii, Klebsiella pneumoniae*, and *Stenotrophomonas maltophilia*, all of which were suspected to be contaminants in the absence of septic cytology. A Baermann test and faecal centrifugation via zinc sulfate were performed because of the peripheral eosinophilia and eosinophilic cytology; results of both were negative. Repeat Baermann testing was not pursued due to the low clinical concern; however, repeat testing may increase sensitivity in populations with higher prevalence (i.e., young dogs, immunosuppressed dogs, research dogs).

DIAGNOSIS: EOSINOPHILIC BRONCHOPNEUMOPATHY

Treatment & Long-Term Management

Treatment for EBP requires anti-inflammatory medications (see Treatment at a Glance). Louie was discharged on fenbendazole (1500 mg [50 mg/kg] once daily for 14 days) and prednisone (30 mg every 12 hours [2 mg/kg/day] for 5 days tapered to 20 mg every 12 hours [1.5 mg/kg/day] for 5 days; 15 mg every 12 hours [1 mg/kg/day] for 2 weeks; 10 mg every 12 hours for 2 weeks [0.67 mg/kg/day]; 10 mg every 24 hours for 2 weeks [0.33 mg/kg/day]; and finally 10 mg every 48 hours [0.33 mg/kg every other day].

Based on Louie's clinical response, eventual discontinuation of steroids could have been considered. Louie's owner was asked to report any clinical signs (e.g., coughing, gagging, retching) and corticosteroid adverse effects before each taper.

Recheck examination and repeat radiography were recommended 1 month after discharge.

Treatment of inflammation should include corticosteroids, with or without immunomodulating medications, which should be gradually and slowly tapered.

In endemic regions, concurrent treatment for parasitic disease (fenbendazole, 50 mg/kg for 10-14 days) should be considered to address migrating nematodes and/or primary pulmonary or tracheal parasites, as false-negative results from traditional faecal testing are possible.

TREATMENT AT A GLANCE

- Treatment should be provided for parasitic disease if necessary (ie, fenbendazole 50 mg/kg every 24 hours for 10 to 14 days.
- Prednisone should be initiated at 1 to 2 mg/kg/day.
- Prednisone should be tapered gradually, ideally every 1 to 2 weeks to the lowest effective dose.
- Clinical signs should be monitored, and regular communication with the pet owner is recommended.
- Radiography should be repeated to assess the patient's response to treatment.
- Relapse is common, and long-term therapy may be necessary.
- Steroid adverse effects should be minimized; if these are excessive, alternative medications may include other immunosuppressants (eg, cyclosporine, azathioprine) and/or inhaled corticosteroids (eg, fluticasone, beclomethasone).

Prognosis & Outcome

At one week after discharge, Louie's owner reported he had marked improvement in coughing (i.e., ≈80% reduction) and increased energy; however, his owner also noted Louie had excessive thirst, urination, and appetite. At two weeks, his owner reported intermittent coughing and persistent signs of corticosteroid excess.

At one month after discharge, thoracic radiography was repeated and revealed marked improvement in diffusion of the bronchointerstitial pattern (Figure 4).

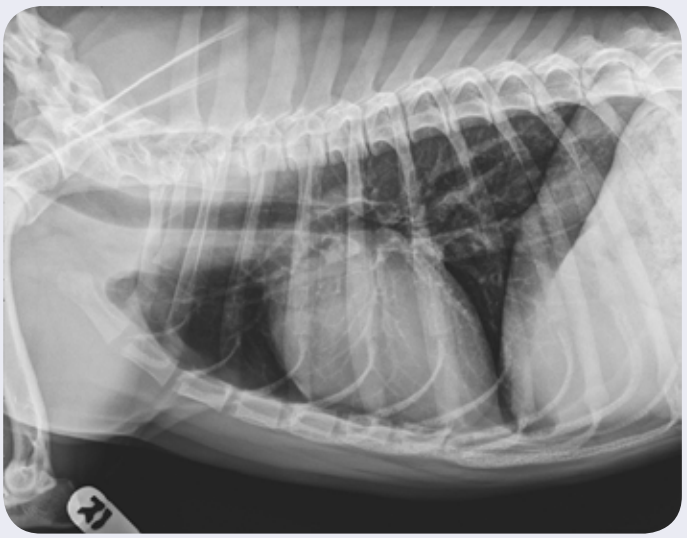
Prednisone was tapered over the next 6 weeks to 10 mg every other day. Intermittent coughing returned, and the dosage was increased to 10 mg once daily (0.33 mg/kg/day), which maintained clinical control. Because this regimen did not result in significant adverse effects and maintained clinical control, adjunctive or alternative anti-inflammatory medications were not prescribed.

Louie was managed on a low dose of prednisone (10 mg once daily) for 5 years with no complications. The primary care clinician attempted to taper prednisone but was unsuccessful—coughing returned as the frequency of medication was reduced.



FIGURE 4

Radiograph 1 month after therapeutic initiation showing an improved bronchointerstitial pattern



Discussion

EBP (historically known as pulmonary infiltrates with eosinophils) is a disease characterised by eosinophilic infiltration of lung and bronchial mucosa and an important differential diagnosis for patients presented with chronic cough, acute onset of respiratory distress, and/or exercise intolerance.1,2 Cough is typically harsh and may be associated with gagging and retching.

This disease can be seen at any age; however, dogs 4 to 6 years of age are most commonly represented.[1-3] Although Siberian huskies and Alaskan malamutes may be overrepresented,[2] the disease can occur in any dog breed.

Physical examination findings may reveal abnormal lung sounds, but auscultation can be normal.[1,2] In addition, ≤24% of patients may have concurrent nasal discharge.[1,2,4]

Diagnosis requires strong clinical suspicion, as EBP is an uncommon cause of the primary clinical signs (i.e., coughing, gagging, exercise intolerance). CBC may reveal an inflammatory leukogram (e.g., eosinophilia, neutrophilia) in ≤60% of cases.[4] Eosinophilia may raise clinical suspicion, but its absence does not rule out disease, as it is only present in 50% to 60% of cases.[1,2,5]

Thoracic radiographs are generally characterised by a diffuse bronchointerstitial pattern with peribronchial cuffing and thickening of the bronchial walls. In some cases, bronchiectasis or alveolar infiltration may be observed.[2,6-8] Occasionally, patchy pulmonary opacities create a nodular appearance.[4] Radiography is critical for ruling out other common causes of cough and/or acute respiratory distress. Concurrent disease processes (e.g., cardiomegaly, tracheal collapse) can complicate diagnosis.

EBP on thoracic computed tomography has been characterised by parenchymal abnormalities (93%) and bronchial wall thickening (87%) in most dogs. Many dogs also had mucus and/or debris that occluded the bronchial lumen (73%), lymphadenopathy (67%), or bronchiectasis (60%).[9] Approximately 33% of dogs had pulmonary nodules, as has been identified on radiographs.[4,9]

Cytologic evaluation of the airways confirms eosinophilic inflammation, which is the hallmark of diagnosis.

>>> 12

The percentage of eosinophils (mean, 61% of the total nucleated cell population4) exceeds that of healthy dogs (5%-24%).[2,5,10] Samples can be obtained via tracheal wash or bronchoscopy. Bronchoscopy allows for visualisation of more characteristic airway associated changes (e.g., greenish-yellow secretions, irregular mucosa, hyperaemia).[2,5,11]

Occasionally, intraluminal granulomas may be present,[4] allowing for mucosal brush samples or biopsies that can further support a diagnosis. Tracheal washes provide appropriate cytologic samples in most cases. Bronchoscopy is generally reserved for patients with more focal radiographic disease, concerns for neoplasia, or suspicion for concurrent structural disorders (e.g., bronchial collapse, tracheal collapse).

Cytologic evaluation is critical to help rule out parasitic disease that can also result in eosinophilic inflammatory response. Faecal testing (i.e., Baermann test, faecal centrifugation) for parasitic disease is recommended; however, because negative results do not rule out parasitic disease, repeat testing and/or empirical therapy is advisable, particularly in at-risk patients.[12]

COMMON FINDINGS IN EOSINOPHILIC BRONCHOPNEUMOPATHY	
Clinical signs	Coughing Acute respiratory distress
Radiographic evaluation	Bronchointerstitial pattern Peribronchial cuffing Alveolar disease Bronchiectasis Nodular pattern
CBC	Leukocytosis ± eosinophilia
Airway cytology	Eosinophilic ± neutrophilic airway cytology
Airway culture	Generally negative
Bronchoscopy	Greenish-yellow secretions Irregular, hyperemic mucosa ± nodular changes

Eosinophilic bronchitis (EB), eosinophilic granuloma (EG), and EBP have been retrospectively evaluated and may provide information regarding therapeutic response, indications for chronic therapy, and overall prognosis.[4] EB is associated with less severe airway remodelling, reduced eosinophilic inflammation (i.e., percent of nucleated cells in airway samples), reduced total inflammation (bronchoalveolar lavage total nucleated cell count/µL), and lower incidence of peripheral eosinophilia. Patients with EG demonstrate intraluminal granulomas/masses not present in EBP.

Overlap still exists among these disorders, and the impact on therapeutic outcome is not yet known; however, EB may be more responsive and EG less responsive to therapy.[4] Eosinophilic pulmonary granulomatosis may also be associated with eosinophilic inflammation, but it is least common and may represent a spectrum of disease characterised by masses that involve the pulmonary parenchyma (not exclusively luminal). EPG may also have systemic organ involvement and be the least responsive to therapy.[14,15]

Corticosteroids are the mainstay of therapy. Prednisone is typically initiated at 1 to 2 mg/kg/day and gradually tapered to the lowest effective dose.[1,2,4] It is important to note that clinical relapse is common and can reach ≈30% after corticosteroids are tapered.[5]

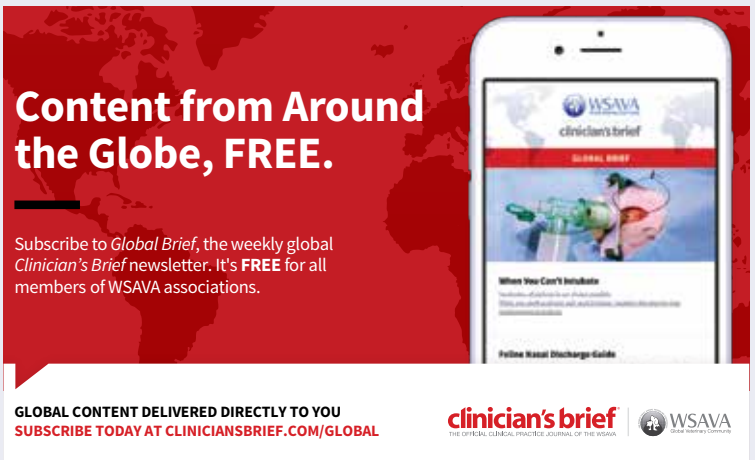
In some cases, medications can be discontinued after months with no evidence of relapse. Some clinicians may taper the drug faster, but the author believes that tapering faster than 1 to 2 weeks may increase the rate of relapse.

Patients with severe signs (e.g., hypoxemia, oxygen dependency, alveolar disease) may also benefit from higher doses initially.

Alternative options for management include inhaled corticosteroids or additional immunosuppressive medications. Fluticasone has been evaluated and may be successful in some cases but is not always adequate for maintaining clinical remission.[16] The author has successfully used cyclosporine in some cases in which corticosteroid adverse effects were intolerable. However, cyclosporine and other immunosuppressive drugs (e.g., azathioprine, mycophenolate) have not been evaluated in randomised, controlled studies despite sporadic clinical use. Cyclosporine has been used for the treatment of other eosinophilic disorders in dogs.[17,18]

TAKE-HOME MESSAGES

- EBP should be considered in patients with chronic cough and in patients with acute respiratory distress.
- Radiographs may reveal nodules, mimicking neoplasia.
- Absence of eosinophilia does not rule out the disease.
- Diagnosis requires cytologic evaluation.
- Parasitic disease can mimic EBP and cannot be definitively ruled out with negative testing.
- Corticosteroids (i.e., prednisone) are the hallmark of therapy.
- Patient relapse is common and may necessitate long-term management.
- Inhaled steroids may not always control the disease. V



How a handful of veterinarians saved millions of human lives and eradicated a disease from the Earth – Part 1

May 24, 2021 by Juan Pascual (@juanpascual4), veterinarian

From https://jpascual.scienceblog.com/, reprinted with permission

On May 25, 2011, the International Organization of Epizootics (OIE), something like the WHO of veterinary medicine, declared eradicated an infectious disease that killed millions of animals and also ended the lives of millions of human beings.

This article has been conceived to show that animal health and human well-being are intimately connected. Also to share the history of a terrible disease that caused enormous suffering, to narrate the global race that led to its eradication and, finally, as a tribute to those that made this feat possible.

Today, rinderpest along with smallpox are the only two infectious diseases eradicated worldwide. Let's hope polio soon is next.
I would like to start with a travel back in time: Rome A.D. 1713:

Nothing could appease Pope Clement XI. The recent signing of the Treaty of Utrecht had caused him to lose territories and influence. France, with the Jansenist heresy and its king, that arrogant Louis XIV did nothing but give him headaches.



Portrait of Giovani Maria Lancisi. The Pope's physician

All this, although annoying, fell within the logic of the struggle for power. Something much more serious was keeping the Bishop of Rome awake. It was not sin or the works of the evil one that tormented him but something much more prosaic: his cattle were dying. Not even the procession to St. Peter's Basilica, followed with zeal by the faithful, who also lost their animals, gave the expected results.

The Lord seemed to have turned his back on him. 1714 began with the worst omens, the cold did not contain the epidemic and the fields were covered with dead animals. Hunger lurked. There was no milk, no meat, and much worse: no animals to plough the fields.

Without them it was impossible to cultivate the land and obtain crops. As the year progressed, their losses were approaching 25,000 head: a catastrophe.

So, the Supreme Pontiff, to save his flocks, put his trust in the same person who took care of his health. His personal physician: Giovani Maria Lancisi.

The doctor put to work and obtained the papal favour to – against the criteria of many cardinals – promulgate a series of norms among which the following consideration stood out:

"It is better to kill all the sick and suspicious animals, rather than allow the disease to spread in order to have enough time and the honour to discover a specific treatment that is often sought without success."

To the sacrifice of all sick animals and those that had been in contact with them, he added strict control of the movements of livestock (and other animals such as dogs) as well as the obligation to bury the corpses in quicklime and not take advantage of anything, skin nor meat, to avoid future infections.

In addition, those who did not comply with these norms paid it well with the punishment of galleys in perpetuity (if they were ecclesiastical) or were directly executed (all others). There were no exceptions of degree, social class or economic position.

In nine months, the epidemic was under control.

The success of the Italian doctor did not go unnoticed in the European courts and his standards were imposed in much of the continent. He also served to lay the foundations for the study of the principles that had controlled the epidemic and that resulted in the creation of the world's first veterinary college, founded in the French city of Lyon in 1761 with the royal support of Louis XV.

>>> 14



ARREST
DU CONSEIL D'ÉTAT
DU ROI,

Qui permet à l'École Vétérinaire, établie à Lyon par Arrêt du 4 août 1761, de prendre dorénavant le titre d'École royale Vétérinaire.

Du 3 Juin 1764.

Extrait des Registres du Conseil d'État.

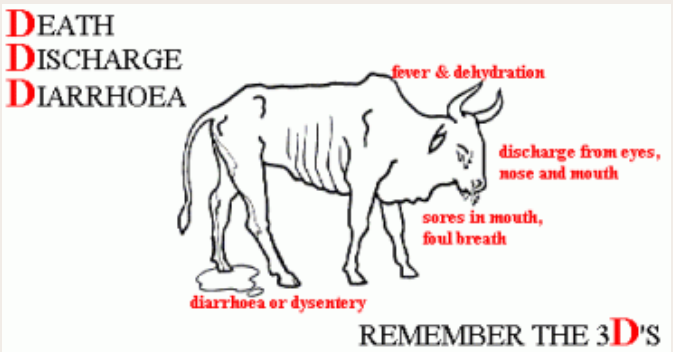
SUR le compte qui a été rendu au Roi, en son Conseil, de la situation & des progrès de l'École pour la connoissance & le traitement des maladies des bestiaux, que Sa Majesté a permis, par son arrêt du 4 août 1761, d'ouvrir dans un des faubourgs de la ville de Lyon, sous le titre d'*École vétérinaire*; Sa Majesté a reconnu que la discipline qui est observée dans ladite École, la méthode, la précision & l'efficacité des façons qu'on y donne, y avoit attiré une grande quantité d'Élèves de son royaume, & même des pays étrangers, qui sont venus y puiser des connoissances jusques

Royal document of approval of the first veterinary college in the world. Lyon France 1761

Although in a very timid way, the rulers began to realise that this evil could not be overcome without cross-border collaboration. Historical enemies would have to work together to fight this cattle plague.

Today we know that the disease that ruined Pope Clement XI's finances was cattle plague (also known by its German name of Rinderpest). A highly contagious and highly deadly virus (over 90%) that preyed on both domestic and wild ruminants. It arrived in Europe with the Asian armies and it was, later, the local armies that spread the infection since the logistics and transport of war materials made it necessary to use the traction force of the oxen who, together with the weapons, carried the infection. With the arrival of the railroad, the cattle trade grew exponentially and with it the transmission of the virus accelerated throughout the continent, arriving in waves mainly from Russia, where it was endemic.

The virus belongs to the genus of morbilliviruses such as canine distemper or measles. The latter appeared as a Rinderpest mutation that was adapted to humans around the 11th or 12th century AD. It is a highly contagious RNA virus. After infection, the animal began



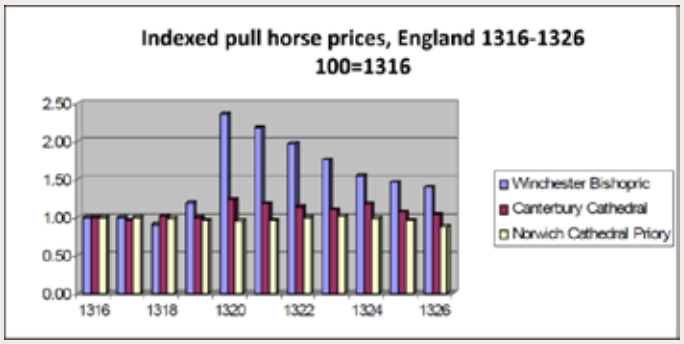


Symptoms of the disease and an actual photo of ocular discharge

to show the first symptoms 3-6 days later: fever, lethargy, nasal and eye discharges, mouth sores and a foul odour. Later, diarrhoea appeared, and the animal died a few days afterwards.

The high animal mortality became a death sentence for the communities. Without cattle, milk and meat were lacking. But worse still, the driving force that allowed the fields to be ploughed disappeared without oxen, it was the people who had to tie themselves to the ploughs and drag them to try to obtain a meagre harvest, always insufficient. Those who could afford it bought horses or mules – immune to the disease – but high demand drove prices up.

Thus, in the successive epidemics that have been documented in the England of the SXIV, a draft horse went from a cost of 12 shillings to 35 in full epidemic. Hunger reached the villages, and it was not uncommon that hunger pushed people to eat carrion and even to commit acts of cannibalism.



Horse prices sharp increased in impacted communities. It took years to bring prices back to normal

Rinderpest accelerated historical events of first magnitude. Thus in 1749 the French physician Blondet described the situation in the countryside of his country: "desolate pastures, uncultivated lands, abandoned farms, everything testifies to our misfortune." In the Limousin region alone, 4,000 people died of hunger in March 1770. In addition to the mortality caused by the disease, there were also the shots that the soldiers had been ordered to fire on any animal

suspected of having been in contact with sick cattle. Although the king paid for the shot animals, the new prices of healthy cattle, always on the rise, made the royal compensation worthless. With no ploughing force, no manure, and without key food sources, it is not surprising that spirits were stirred and that discontent, as some historians point out, contributed to the breeding ground that led to the French Revolution in 1789.



Without oxen, people had to plough the fields. Exhausting work to obtain poor results

The horror was not limited to Europe, Africa suffered the plague as a result of successive imports of European cattle. At the end of the 19th century, the Ethiopian Emperor Menelik lost more than 250,000 cattle. Thus began the great Ethiopian famine of 1888-1892, which a French missionary described as follows: "wherever I go I come across walking skeletons or corpses half-eaten by hyenas, of the hungry who have fallen from exhaustion."

One third of the Ethiopian population died because of this famine. But not only domestic livestock were involved. Wild animals also suffered from the disease: buffalo, giraffe, antelope, all ungulates fell prey to the infection. Livestock is deeply rooted in many African cultures for which animals are the only way to have capital, cattle constitute an economic system in themselves: dowries, inheritances and loans are paid with livestock. Animals' death meant the death of entire cultures.

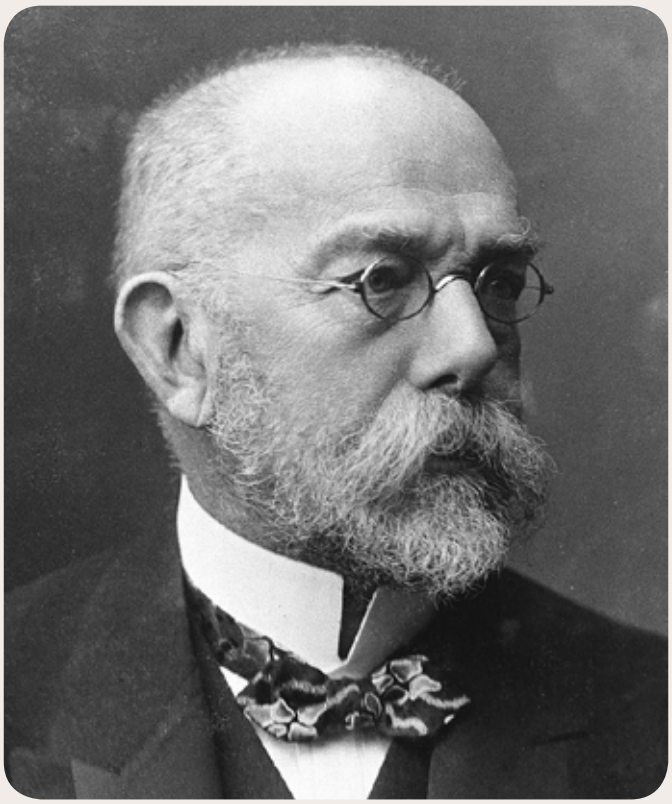


Cattle plague deaths in South Africa

Something had to be done and a good number of countries came to an agreement to put aside their quarrels and try to join forces and fight this disease. In 1871, the Austrian government launched the first international conference for rinderpest control. Governments agreed to alert each other by telegraph when there was an outbreak of disease to interrupt the trade in animals, they promised to compensate farmers for their losses, as well as to implement stringent disinfection measures in the event of any positive diagnosis.

Following these rules, the German authorities alerted their British counterparts – in 1877 – that the animals that had just arrived in their territory from Hamburg could be contaminated as in the German city an outbreak of rinderpest had just been diagnosed. Rapid communication enabled English veterinarians to immobilise and slaughter the cows, and prevent the disease from spreading across English territory. The immobilisation of German animals was quickly established, as well as the prohibition of importation into Dutch, Belgian, Swiss and French territory, among others. The efforts made it possible to stop the disease in Europe.But although the virus saw its expansion in the old continent short-circuited, it began its wide expansion in other latitudes thanks to the colonizing activity of the European powers.

As an example, the importation of cattle to feed the Spanish military contingent located in the Philippine Islands introduced Rinderpest in the archipelago. But where the virus was rampant was on the African continent. In South Africa, the plague preyed on cattle and no preventive measure seemed to work. So serious was the situation that the government of the Cape province requested the services of Robert Koch, who years before had established his famous postulates that allowed a disease to be attributed to a specific germ. Koch knew his trade and was certain that a micro-



Robert Koch

>>> 16

organism caused the plague. Vaccination experiences against rabies and smallpox made him optimistic about finding an effective prophylaxis against rinderpest.

After many tests with different body fluids, he ended up recommending that healthy cattle be inoculated with bile from animals that had died of the disease. The method was unsuccessful, but it allowed local scientists to create another alternative: injecting serum from infected animals. It was not an ideal solution, many other infections were transmitted trying to avoid the plague, but the inoculated animals developed some immunity against the virus. Mortality in treated cattle dropped from 77% to 44%. Colons of European origin had more access to this remedy and inoculated more, hence we can know the difference between cattle that did not receive prophylaxis – mainly from native cattlemen – versus those of owners of European origin.

In 1902, Turkish researchers proved that the agent behind plague outbreaks was a virus.

A few years later, in 1910, the Japanese invaded the Korean peninsula and Japanese veterinarians set out to create an immune belt between Korea and China to protect the Korean herd from rinderpest. To do this, the veterinarian Chiharu Kakizaki was able to inactivate the viral agent in blood and spleen samples by mixing them with glycerin: The first vaccine against rinderpest was born.

International coordination efforts to fight the plague took another big step with the signing of 28 countries for the creation, in 1928, of the OIE, the International Organization of Epizooties, still active today and which played a leading role, together with the FAO, in eradicating the rinderpest from the Earth.

A few years later, in the Philippines, an American military veterinarian, Raymond Alexander Kesler, used chloroform to inactivate the virus present in macerated spleen, lymph nodes and liver. The vaccine required multiple doses and provided immunity for a limited period of time, but the important thing was that it helped, along with quarantine and slaughter measures, to limit the disease. The Philippines launched a vaccination campaign that between 1924-1931. It was administered at a rate of 300,000 heads/year.

Dead vaccines do not cause infection because the virus is inactive, but they are capable of "alerting" the immune system and generating defences. The major drawback is the need to repeat the doses to maintain their prophylactic capacity, which is often prohibitively expensive and labour intensive.

The next battle was to get live vaccines, which could stimulate long-term immunity without causing the disease or led to an attenuated form, with mild symptoms. Previous experiences with rabies virus



Raymond Alexander Kesler

and smallpox invited to test the attenuation of the virus by passage in non-target species. Thus, it was tested on different animals with varying success. The first successful experience was obtained by passing in goats and gave rise to the vaccine called Kabete O, very effective for African cattle (although it produced a mild disease) but still fatal for 50% of the European herd, so the old continent continued with the administration of the dead vaccine.

Kabete O could easily be transported in previously immunised live goats. Once slaughtered, between 500 and 800 doses could be obtained from each goat. It was a tremendously efficient mode of transport in the conditions of the African continent.

We thus arrive in the 1940s. Quite surprisingly, the Second World War was, de facto, a boost in the fight against rinderpest.

More about that in Part 2, which will follow in the August issue.

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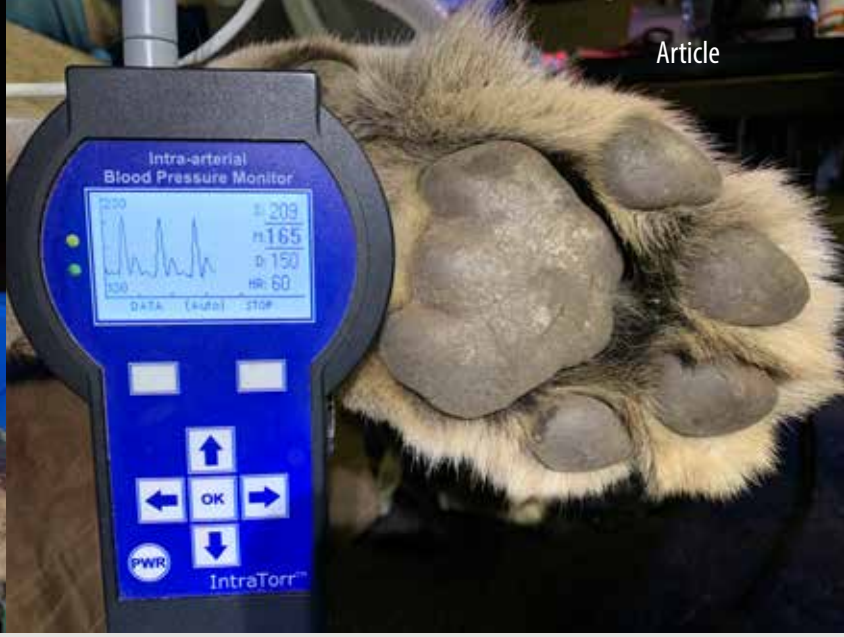
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Immobilising lions

(Source: Faculty of Veterinary Science)



Recently, a team from the Faculty, in collaboration with the Brain Function Research Group (BFRG) at Wits University and the SANParks Veterinary Wildlife Services team, conducted research in the Kruger National Park to investigate novel immobilising drug combinations to facilitate the capture of free-ranging lions for conservation management, monitoring and research purposes.

The aim of the study was to evaluate the effectiveness and safety of ketamine-medetomidine and ketamine-butorphanol-medetomidine as immobilising drug combinations compared to the historically used combination of tiletamine-zolazepam-medetomidine. The overall objective was to improve the quality of the immobilisation (anaesthesia) and recovery, and the safety of both the lions and people involved.

The study forms part of Ashleigh Donaldson's PhD at the University of Pretoria. During the course of three weeks the team – including her supervisors Professor Leith Meyer, Director of the Centre for Veterinary Wildlife Research, Professor Andrea Fuller, Director of the BFRG and Dr Peter Buss, SANParks Veterinary Senior Manager – assessed the quality of induction, immobilisation and recovery of 36 lions immobilised with the various drug combinations.

Cardiorespiratory and metabolic effects of each drug combination were monitored and will be assessed and compared.

The study was very successful and the team believes that there will some exciting findings and novel insights related to the use of ketamine-medetomidine and ketamine-butorphanol-medetomidine in free-ranging lions.

They are looking forward to reporting these findings after full analysis and interpretation of the data.



Mia, 3½ months after the operation

Bionic Reconstruction: New Foot For Mia The Bearded Vulture

With Oskar Aszmann and his team at the Department of Plastic, Reconstructive and Aesthetic Surgery, MedUni Vienna has long been regarded as a world leader in bionic limb reconstruction. It was only last year that the world's first fully integrated bionic arm prosthesis was developed at MedUni Vienna. This is ready-to-use and is described as "Plug and Play". Although all bionic aids have so far been used in humans, the technique known as osseointegration (direct skeletal attachment) has now been used for the very first time in a bearded vulture – the creature was given a new foot. A paper on this ground-breaking procedure was recently published in the prestigious Journal "*Scientific Reports*".

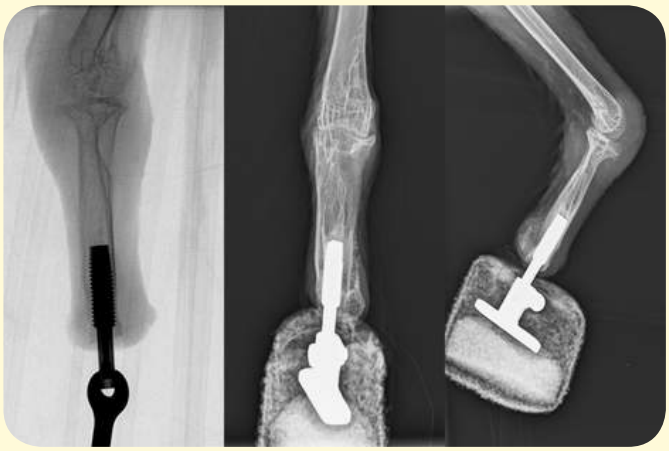
In large birds such as vultures, the loss of limbs results in the loss of the ability to walk and ultimately to death from malnutrition. The limb can be replaced by a prosthesis but, so far, it has not been possible to use conventional prosthesis shafts in avian limbs, given the extreme loads they have to withstand in daily use.

Life-saving bionic reconstruction

In the case of "Mia" the bearded vulture from the Owl and Bird of Prey Sanctuary in Haringsee (Lower Austria) run by Dr Hans Frey, Sarah Hochgeschurz from Vienna University of Veterinary Medicine turned to Oskar Aszmann's team for help. Bearded vultures are the largest flying birds in Europe with a wingspan of up to 2.6 m and this particular bird had injured its foot so badly that it had to be amputated. "

However, feet are vital tools for a vulture, not only for landing and walking but also for holding their prey, so that their feet have to withstand various loads," explains the researcher from Vetmeduni Vienna.

Aszmann adds: "Following a clinical visit to Haringsee, it was clear that the rare bird could not survive long in its current condition. We designed and fabricated a special bone implant that could be surgically attached to the stump."



This new technique is known as osseointegration and Aszmann's working group recently used it for the first time in Austria on a patient who had lost an arm – however, it had never previously been attempted on a bird. In osseointegration, external parts of the prosthesis are directly connected to a bone anchor to guarantee a solid skeletal attachment. Aszmann explains: "This concept offers a high degree of embodiment, since osseoperception provides direct intuitive feedback, thereby allowing natural use of the extremity for walking and feeding. For the first time we have now successfully bionically reconstructed the limb of a vulture."

The operation on the bearded vulture was successfully carried out, together with Rickard Branemark from the Center for Osseointegration Research (San Francisco), at the Center for Biomechanical Research at MedUni Vienna (Director: Bruno Podesser). Rehabilitation and prosthetic treatment took place back in Haringsee. "The bird made the first attempts to walk after just three weeks and the prosthesis was under full load after six weeks. Today the bearded vulture can once again land and walk using both feet, making it the first 'bionic bird'," says Aszmann, who is famous throughout the world for his ground-breaking work on bionic hands. In particular, the case of Patrick Mayrhofer created a sensation in the world media in 2011: the young electrician touched a live circuit at work in 2008 and suffered very severe injuries, losing the use of his left hand. He then decided to have his hand amputated and replaced a few weeks later by a bionic prosthesis at MedUni Vienna – a world first.

Full article: "Avian bionic reconstruction: Intuitive embodiment via osseointegrated leg-prosthesis." Sarah Hochgeschurz, Konstantin D. Bergmeister, Rickard Brånemark , Martin Aman, Attillio Rocchi, Flavia Restitutti, Michaela Gumpenberger, Matthias E. Sporer, Clemens Gstöttner, Bruno K. Podesser, Oskar C. Aszmann. Scientific Reports, June 11, 2021. www.nature.com/articles/s41598-021-90048-2

(Source: https://scienceblog.com)

How an elephant's trunk manipulates air to eat and drink



New research from the Georgia Institute of Technology finds that elephants dilate their nostrils in order to create more space in their trunks, allowing them to store up to nine litres of water. They can also suck up three litres per second — a speed 50 times faster than a human sneeze (150 meters per second/330 mph).

The Georgia Tech College of Engineering study sought to better understand the physics of how elephants use their trunks to move and manipulate air, water, food and other objects. They also sought to learn if the mechanics could inspire the creation of more efficient robots that use air motion to hold and move things. While octopus use jets of water to move and archer fish shoot water above the surface to catch insects, the Georgia Tech researchers found that elephants are the only animals able to use suction on land and underwater.

The paper, "Suction feeding by elephants," is published in the *Journal of the Royal Society Interface*. "An elephant eats about 400 pounds of food a day, but very little is known about how they use their trunks to pick up lightweight food and water for 18 hours, every day," said Georgia Tech mechanical engineering Ph.D. student Andrew Schulz, who led the study. "It turns out their trunks act like suitcases, capable of expanding when necessary."

Schulz and the Georgia Tech team worked with veterinarians at Zoo Atlanta, studying elephants as they ate various foods. For large rutabaga cubes, for example, the animal grabbed and collected them. It sucked up smaller cubes and made a loud vacuuming sound, or the sound of a person slurping noodles, before transferring the vegetables to its mouth. To learn more about suction, the researchers gave elephants a tortilla chip and measured the applied force. Sometimes the animal pressed down on the chip and breathed in, suspending the chip on the tip of trunk without breaking it. It was similar to a person inhaling a piece of paper onto their mouth. Other times the elephant applied suction from a distance, drawing the chip to the edge of its trunk. "An elephant uses its trunk like a Swiss Army Knife," said David Hu, Schulz's advisor and a professor in Georgia Tech's George W. Woodruff School of Mechanical Engineering. "It can detect scents and grab things. Other times it blows objects away like a leaf blower or sniffs them in like a vacuum." By watching elephants inhale liquid from an aquarium, the team was able to time the durations and measure volume. In just 1.5 seconds, the trunk sucked up 3.7 liters, the equivalent of 20 toilets flushing simultaneously.

(Watch the video: https://www.futurity.org/elephants-trunks-suction-robots-2577072/)

An ultrasonic probe was used to take trunk wall measurements and see how the trunk's inner muscles work. By contracting those muscles, the animal dilates its nostrils up to 30 percent. This decreases the thickness of the walls and expands nasal volume by 64 percent. "At first it didn't make sense: an elephant's nasal passage is relatively small and it was inhaling more water than it should," said Schulz. "It wasn't until we saw the ultrasonographic images and watched the nostrils expand that we realised how they did it. Air makes the walls open, and the animal can store far more water than we originally estimated."

Based on the pressures applied, Schulz and the team suggest that elephants inhale at speeds that are comparable to Japan's 300-mph bullet trains. Schulz said these unique characteristics have applications in soft robotics and conservation efforts.

"By investigating the mechanics and physics behind trunk muscle movements, we can apply the physical mechanisms — combinations of suction and grasping — to find new ways to build robots," Schulz said.

"In the meantime, the African elephant is now listed as endangered because of poaching and loss of habitat. Its trunk makes it a unique species to study. By learning more about them, we can learn how to better conserve elephants in the wild."

(Source: https://scienceblog.com)



DISPATCH FROM THE PROVINCE OF LEGENDS: EASTERN CAPE PROVINCE

Eastern Cape and Karoo Branch Congress 28th - 29th May 2021



I am pleased to report about the recent congress in our province which, from the vibes I am getting, must have been a "resounding success".

This was a congress with a difference in that we managed to "scoop" certain firsts during the process. This was the first congress ever in the history of the Branch to be held virtually.

Secondly it was also the first time we have ever had a sitting MEC of Agriculture in the Province attending. Thirdly it was also the first time we've ever had international presenters among our midst. Lastly, we also had a colleague born in this Province who went on to become a shining star in the veterinary-pharma industry. I have attached our programme to illustrate the above.

The MEC for Agriculture in the Province Ms N. Pieters was elated to have been invited to this congress and vowed to develop the liaison between the Department and our Branch. She also highlighted some of those perennial problems which our profession continues to grapple with, namely recognition of each other, properly recognising those who came before us adequately, the poor representation of some population groups, the establishment of a second veterinary faculty in the country and finally the interaction between state and private veterinarians.

It was also very interesting to hear how much of Jotello Soga's activities *(the first South African to be trained as a veterinarian)* were packed in her speech. The Branch will ride on this wave to ensure that we have a say in what the Provincial State Veterinary Services is doing going forward.

As mentioned above we also had three international presenters from two Universities, authorities in their professional areas during this session. They were Professor H. Volk from the Veterinary University of Hannover (TiHo) who presented on using "Dogs to sniff out COVID-19 patients". Then we had Professor Dr. Dr. S. Arnhold who presented on "Stem cells" as well as Prof Martin Schmidt who presented on "Epilepsy in the Canine". both from the Justus Liebig University Veterinary School in Giessen.

The importance of having these international speakers was to hear views from other Institutions and practitioners from elsewhere other than from within ourselves only. I still believe that this does open up our minds globally and enriches our professional standing. It also opens up opportunities of exchange programmes with these institutions and colleagues.

Then we had our own Dr P. Oberem (*CEO of AFRIVET),* born in this Province and who spent his formative years in the profession here at Kwanyanga Coopers Research station near East London in the pharma industry *(If you can still remember Coopers).* He not only relived his early years in the province but he went further to outline the current support AFRIVET is continuing to offer the State Veterinary Services as well as the people of the province.

Lastly, we had our own renowned local colleagues Dr R. Lobetti who presented on "Acute abdomen – differential diagnosis", "Diagnosis and management of pleural and abdominal effusions", "Diagnostic approach to liver disease", as well as "Management of cardiac disease in general practice".

We then had. Dr D. Elliot with "Common conditions of birds", ""Rodents – the anorexic rabbit", as well as "Reptiles – intro to vet care". This was followed by Dr A. Shepherd with "A practical approach in an abortion outbreak in sheep and goats", as well as "*Toxoplasma* in goats".

Then our two sponsors whom we are very grateful to – Dr G. Fyvie from Hills" on "Update on GI Biome" as well as Ms M. Lomberg from Vetrenew who talked about "Stem Cells". We were also honoured to have the President of the SAVC Dr. A. Kgasi as well as the President of the SAVA Dr. L. De Bruyn talking about their organisations during this congress

The statistics show that we had about 70 participants over the two-day congress. I would like to take this opportunity of thanking my Branch management committee for organising this event. Special thanks go to Dr Anmarie Kamfer, member responsible for organising our events and who was the main go-between ourselves and the facilitators. Dr Marcel Snyman for participating actively during the congress.

Thanks to Vetlink, the congress facilitators, especially Madaleen, Isabel and Hein who obligingly fielded my demands during the preparations and also ensured that this congress progressed without any glitches.

Lastly, my sincere gratitude to all participants from our Branch and elsewhere with an undertaking that the next congress in 2022 ***would be greater, more interesting with even more variety in terms of topics and presenters, typical of the "BAR" we have already set for others to follow.***

DR. IVAN LWANGA-IGA (Dr. Med. Vet.; D. Admin in Public Administration)
Life Member of The South African Veterinary Association (SAVA)
Chairman: SAVA East Cape & Karoo Branch



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Augrabies Falls Outreach

René de Wet





When the EnviroVet CVC team was approached for help by Sandy Youngkranz, manager of the Augrabies Community Veterinary Clinic, they did not have to think twice! Clearly passionate about the well-being of the animals in her community and desperate to improve their lives, Sandy realised that without practical knowledge of mass sterilisations she would need experienced help. The EnviroVet CVC team were only too pleased to assist.

So early Monday 24th May we set out on the 874 km journey to the scenic Northern Cape and the barren rocky landscape around the famous Augrabies Falls which the original Khoikhoi named 'Ankoerebis' - 'the place of great noise.' And after a long, dusty, but happy trip, our welcome by Sandy and her team was – needless to say – heart-warming.

It soon became clear that help was urgently needed, but gathering statistics in advance had been impossible. There are many small communities and human figures mere estimates, so the first day our team went door to door to source and record animals. The people were approachable and one could clearly sense a loving relationship between many owners and their pets. The condition of most animals can be described as fair, and fortunately convincing owners to sterilise them was not really a challenge.





Another positive aspect was that breeding among dogs was not excessive in the areas where we worked, the disposition of the animals mostly friendly, tolerant and easy to handle, with very little aggression.

These are good signs that pets in this under-resourced area are generally well-treated, despite the obvious indigence of the human community.

As for the cats, we encountered isolated (mostly feral) pockets, which we humanely trapped and kept safely together until all members of the colony had been caught. This method significantly limits trauma in animals that are to all extents and purposes wild.

After sterilisation the kitties' ears were clipped and after a nice recuperative nap released in the area where they'd been found.

One of the most pleasing aspects was the significant curiosity from children (boys and girls) of varying ages.

Dr Roos even allowed those particularly interested to witness a sterilisation being performed, and we are pleased to report no-one fainted and perhaps we even left behind some budding veterinarians!

Afterwards we were delighted to find some of the children reading aloud from the pictorial CVC booklets they were given, which remain a vital part of our education outreach being available in all the main official languages.

In total we sterilised 100 animals for Augrabies CVC: 21 male cats, 15 female cats, 25 male dogs and 39 female dogs. Every animal was given a general examination, then treated for ticks, fleas, worms and mange and every single patient was sent home with a bag of nutritious food to speed post-operative recovery.

Apart from a big thank you to Sandy and her team at Augrabies CVC, our heartfelt gratitude goes to each and every supporter of the White Elephant animal charity shop in Somerset West, which again sponsored most of the outreach.

Such campaigns are hugely costly in every respect and while people are desperate for help, they don't always have the funds.

We truly could not do our work without those of you who faithfully contribute year after year to the White Elephant with donations and your custom.

If you have not visited us, please do. You will be amazed at the variety of goods on sale, from valuable antiques to affordable good quality clothing.

It is a particular pleasure when two sister CVCs can work together as we did and we left Augrabies with a deep sense of contentment and the hope to return in the not too distant future to that arid semi-desert where the mysterious kokerboom *(Aloidendron dichotomum)* reigns supreme.

And like the kokerboom clinging precariously to life on its rocky pedestals, so these hardy communities must make a living and still care for their pets.

We are so glad that with YOUR help we were able to make a positive contribution.

And yes we did manage a quick visit to 'Ankoerebis' the majestic falls thundering down a 56m spectacular rock-face into a deep gorge reminiscent of a moon landscape.

Such a display of natural grandeur leaves one humbled and more determined than ever to preserve and conserve life in all its forms.

Thanks once again to one and all! V



The SAVA Stress Management Hotline is there to assist members who are experiencing personal problems by offering access to professional counselling/advice.

The hotline can assist with referrals or simply offer much needed emotional support when anxiety, depression, anger, grief, lonelinessand fear are at their highest.



The following SAVA members are available on the SAVA stress management hotline. If required, they will refer you to professionals.

Ken Pettey	082 882 7356	ken.pettey@gmail.com
Tod Collins	083 350 1662	tcollins@isat.co.za
Aileen Pypers	072 599 8737	aileen.vet@gmail.com
Willem Schultheiss	082 323 7019	willem.schultheiss@ceva.com
Mike Lowry	084 581 2624	mikelowry@sai.co.za

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- To use our professional knowledge, skills and resources to protect and promote the health and welfare of animals and humans
- To further the status and image of the veterinarian and to foster and enrich veterinary science
- To promote the interests of our Association and fellowship amongst its members.

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- Die status en beeld van die veearts te bevorder en die veeartsenykunde te verryk
- Die belange van ons Vereniging en die genootskap tussen sy lede te bevorder.

In Memoriam

We honour and remember the contributions made by our colleagues who recently passed away.

Dr Glen Winston Burroughs: 16 May 1941 – January 2021 †

Dr Schalk Janse van Rensburg: 12 July 1934 – 29 May 2021 †

Dr Corli van der Walt: 03 March 1978 – 05 June 2021 †

Prof Tubby Veary: 21 September 1939 – 12 June 2021 †

We honour their contribution to our profession and society in general and pray that their families and loved ones will find the strength to carry them through these times of bereavement.



Dr Corli van der Walt



Prof Tubby Veary



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I hope this article of my column finds you and your families well and safe!!! With everyone working hard to make up for lost time and perhaps make up the deficit that we have all endured over the past year and a half, it is important that we understand the purpose of rewarding ourselves. Many of us have been brain-washed to think that rewarding ourselves is wrong and that may not be necessarily true. In my coaching practice, I help my clients achieve their goals/objectives and part of the strategy is rewarding oneself for reaching each identified milestone that will bring you closer to your ultimate achievement.

"For every disciplined effort there is multiple reward."

Jim Rohn

There is a lot more meaning within a reward and I would like to share some ideas with you:

1. In my experience there seems to be a misinterpretation when people mention that completing a task is a reward within itself, which is partly true. We are inherently very quick to put ourselves down when we don't feel like we are doing enough or achieving enough, even when we don't need to be. One of the purposes of recognising your achievements is to **reinforce your self-belief** and helps improve your self-esteem.

2. When we make it a habit to reinforce our self-belief, it **builds our character**. If you are looking for the good things you have done to reward yourself, you will notice more and more of what you have achieved. That is when you are "in the zone" and it feels like everything is working out in your favour. Performing in that space is not only productive and it also attracts more positive results. It sets up a self-propagating positive behaviour cycle that becomes a magnet for people and opportunities.

3. Recognising each little win will get you excited about hitting your main goal. We are not robots and there will be times when we will not be able to rely just on **motivation**, however, when it is available, it becomes a useful ingredient for our goals and will give us little pushes along the way. Progress is one of the biggest motivators we can have in our arsenal.

4. All too often we have a goal floating around in our minds and although it may be vivid, emotional and something we are very interested in, it remains in our heads. If we just hear the words but we are not doing anything, it may be a form of deception aimed at ourselves. Having palpable milestones **makes the progress tangible** and brings it into the conscious and present moment as real, achievable and something to look forward to. Having the rewards is one of the many ways we can measure how close we are to completing our goal, making our effort evidence-based and making sure our effort is acknowledged by ourselves.

5. When you have a specific goal in mind, you want to continue **having fun** working towards it. If you start getting bored or forgetting your why then your motivation and desire to achieve it may start dwindling. It is vital to feel good about yourself and celebrate it.

6. Think about climbing a tree to retrieve the fruit you want. It takes effort to get up there, it takes risk and courage to reach out for the fruit. When it becomes uncomfortable, we can still enjoy the thrill of the adventure, but it also **brings about personal growth**. When things become difficult it doesn't mean we are failing or doing something wrong. When a seedling grows through layers of soil to reach the surface of the ground and see the sun, it is very difficult to grow through sand and the crust of the top layer, but once it does, its potential for growth in the sunlight is phenomenal.

>>> 27

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7. Finally, gratitude is the expression of **appreciation for what one has**. Now that you have achieved one or more milestones, you have more than before. It is a recognition of value independent of monetary worth. Spontaneously generated from within, it is an affirmation of goodness and warmth. Feeling grateful boosts happiness and fosters both physical and psychological health. Studies show that practicing gratitude curbs the use of words expressing negative emotions and shifts inner attention away from such negative emotions

Parting thought for those amongst us that are perfectionists and/or procrastinators. In many ways, we were brought up to be rewarded when our work is "perfect". If what we produced was not as good as someone else, we would often not be rewarded or recognised. Once I started working in the real world, it became increasingly more obvious that the **people that get the job done are the ones that get rewarded** more so than those who are perfectionists.

Next month, we will learn more ways to embrace the new world post COVID19, healthy and safe.

Puppy Fitness

Tanya Grantham



There are two schools of thought around puppies and exercise. The first is that puppies should be left to their own devices and real exercise only begins after skeletal maturity. The second is that puppies can be influenced positively, with care not to overdo the program, from an early age. In order to discuss puppy fitness, there first needs to be an understanding of the components of a canine fitness program. There are five key elements to a canine fitness program for uninjured adult dogs.

1. **Cardio Component or Endurance.** These include exercises that increase the heart rate and build stamina. Most often cardiovascular fitness is increased when performing exercises for a prolonged period of time namely, more than 20 minutes. Common exercises in this category include swimming and jogging.

2. **Flexibility.** This refers to how a dog moves its body, freely and without restriction. Flexibility is important in both dynamic movements and also in stasis. A dog should be able to touch its nose to its hip without moving its feet.

3. **Balance/Core.** If core musculature is developed and strong then physical challenges to which a dog is exposed will be easier to perform. Balance and strong core affect the dog's posture and ability to perform. Being strong in the core prevent overload elsewhere in the body.

4. **Strength.** This type of strength is not dependent on the breed of dog but rather pertains to the strength of muscles to perform tasks. Many dogs are very strong in the front limbs but lack strength in the hindquarters to power themselves over a jump.

5. **Mental.** This component is often overlooked. Stimulating the brain, and asking dogs to think and solve problems will tire them out immensely. Mental stimulation builds confidence and resilience.

A fitness program in puppies differs slightly from that of an adult dog, and will depend on the puppy's stage of development. The skeleton is not mineralised until well over a year of age so endurance should not be part of a puppy program.

The pup develops endurance by being allowed time for free play. This is when the puppy is rushing around the garden, at its own speed and for an amount of time determined by the puppy.

Puppies are taught fundamentals especially of interacting with its world. These exercises should ask a puppy to use its body. They need to learn constantly, and require feedback. It is a process of experimentation and appropriate exercises are very important at this stage.

There is no force or physical overload. Limb awareness is an essential component of a puppy program. As the puppy becomes more aware of its legs, then it can use them with more control.

The risk of injury can be greatly reduced.







Puppies are also taught skills. In the early phases of development these skills include socialising and interacting with other animals and with people. These are mental exercises. Another part of skills is that of body control.

The pup should be taught foundational actions such as a straight sit, stays, downs and loose leash walking. If the pup is taught to perform these correctly, then its posture is being developed along with gentle muscle activation and strengthening.

In summary, puppies do not participate in any form of formal endurance. Flexibility, balance and muscular activation are all stimulated while teaching foundational exercises.

Strength develops naturally during these exercises. Specific strengthening exercises are added after the pup is older than 6 months.

Skills take care of the mental aspects of the program and much of a puppy fitness program will focus here.



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Keratoconjunctivitis sicca [KCS] [Part 3]

Dr Izak Venter, Digital Veterinary Ophthalmology Services (DVOS)

Qualitative KCS was discussed in a previous issue. The other and more well-known form of KCS is quantitative KCS or deficiency of the aqueous layer of the precorneal tear film. In this issue we will be looking at the aetiology of KCS. Clinical signs, diagnosis and treatment will be discussed in future issues.

KCS is a common finding in dogs. It most frequently is seen as a chronic disease resulting in inadequate tear flow and secondary mucoid ocular discharge with changes to the cornea and conjunctiva. Drying resulting from decreased secretion by the lacrimal glands must be differentiated from drying due to increased evaporation of the aqueous layer, for example in animals with lagophthalmos, exophthalmos or macroblepharon. In decreased lacrimal gland secretion [KCS] the Schirmer tear test [STT] is subnormal, whereas in the other entities the STT may be normal or even increased.

There are numerous possible causes for this decreased production of the aqueous layer.

An immune-mediated mechanism is the most common cause of KCS in dogs. In some dogs with KCS, circulating auto-antibodies to the lacrimal glands, salivary glands, and gland of the third eyelid are present. Animals with KCS are often also affected with other autoimmune or immune-mediated disorders for example: systemic lupus erythematosus, pemphigus foliaceus, rheumatoid arthritis, hypothyroidism, diabetes mellitus, polymyositis and polyarthritis, atopy, glomerulonephritis, and ulcerative colitis. Sjögren's syndrome more commonly seen in humans characterised by a dry mouth as well as eyes, also occurs in dogs.

Feline herpesvirus may induce KCS through fibrosis of the lacrimal gland ductules and is the most common causes of KCS in cats.

Other causes of KCS include.

- Systemic diseases for example canine distemper and diabetes mellitus.
- Surgically induced – destruction or removal of the lacrimal gland and/or gland of the third eyelid or their nervous innervation.
- Trauma to the orbital and supraorbital area damaging the lacrimal gland.
- Chronic ocular infections - this can lead to secondary dacryoadenitis and atrophy.
- Toxic – the chronic use of sulfa-derivatives, including trimethoprimsulfamethoxazole, sulfadiazine, and sulfasalazine can cause KCS. This is frequently irreversible. Up to 50% of dogs in which KCS develops after they receive a sulfa derivative do so within 30 days of starting the drug. KCS can however develop as soon as within 7 days after starting the medication.
- General anaesthesia – temporary hyposecretion can result in older dogs after surgery.
- Post-radiation of the supraorbital region.
- Neurological – loss of parasympathetic innervations of lacrimal glands (CN III). Neurogenic KCS is often unilateral and the nares on the affected side is also dry if the parasympathetic innervation is damaged proximal to the pterygopalatine ganglion.
- Hypoplasia of the lacrimal glands. In Yorkshire terriers congenital KCS most often occurs unilaterally.

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The first mission of DVOS is to create a platform for the general practitioner veterinary surgeon to improve their ophthalmological knowledge and enable them to deal with ocular cases with more confidence. This will be done with online courses allowing participants to download course material that will include written notes as well as narrated PowerPoint presentations. The first small animal course comprises of 240 pages and the PowerPoint lectures are 20 hours in total excluding a guest lecture on SARDS. I shall also make surgical videos available covering some common surgical procedures. The course is CPD accredited with the South African Veterinary council for a total of 23 CPD points.

The second mission is to provide a service to the practicing veterinarian offering specialist advice regarding problematic cases.

More information regarding both of these aims are available on the website: www.dvos.co.za



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FOR ANIMALS. FOR HEALTH. FOR YOU.

Colibacillosis in Broilers

What is Colibacillosis?

Escherichia coli (E. coli) occurs ubiquitously and forms part of the normal commensal intestinal tract flora of poultry.

However, certain strains can cause a localised or systemic disease known as Colibacillosis.

These avian pathogenic *E. coli* (APEC) are commonly known as opportunistic, secondary pathogens. There is increasing evidence that they may be able to act as primary pathogens too.

Colibacillosis is a common disease in broiler production resulting in significant economic losses by reducing on farm production and increasing reject levels at slaughterhouses[1].

Of public health significance is the use of antibiotics to treat colibacillosis infections and studies exploring the links between APECs and human extraintestinal pathogenic *E.coli* (ExPECs).

The severity of the disease is influenced by the virulence factors of the particular *E. coli* strain and the susceptibility of the birds themselves.

Multiple risk factors can increase susceptibility:

- Primary pathogens; viruses like Infectious Bronchitis, coccidiosis and *Mycoplasma* spp.
- Immunosuppression; caused by stress or diseases such as Infectious Bursal Disease
- Poor chick quality
- Seasonal challenges
- Production and management stress
- Poor nutrition including Mycotoxins
- Poor water quality
- High bacterial load in the environment
- And more!

What are the possible routes of infection for *E.coli*?



Aerosol and oral infection

Inhalation of dust containing APECs can invade the body via the respiratory tract. This is made more likely following a respiratoryinfection or when the immune status of the bird is compromiseddue to environmental stressors and poor air quality.

Local infection

Even very light scratches to the skin of the birds can be enoughfor APECs to be introduced and allow cellulitis to develop.

Breeder flocks

The yolk sac of broiler chicks may become infected with *E. coli*. This can originate from faecal contamination of the eggsurface post-laying, during incubation or from contact with contaminated environments before the chick's navel has fully healed.

What do you see in flocks suffering from Colibacillosis?

Colibacillosis can have several serious manifestations within broiler production, including:

- Colisepticaemia
  - Airsacculitis: Resulting from inhalation of dust containing APECs
  - Omphalitis: Young broiler chicks with unhealed navels and infected yolk sacs can be seen. Mortality in affected flocks typically peaks at around 5 days of age
  - Polyserositis: Following systemic spread, signs including perihepatitis and pericarditis can be seen on post-mortem
  - Enteritis, meningitis etc.
- Increased carcass condemnation rates at processing
- Cellulitis: Subcutaneous bacterial infection commonly seen on the surface of the breast muscle
- Lameness
- Poor growth
- Increased mortality

Colibacillosis outbreaks may need to be treated; increasing antibiotic usage and adding further costs to production.

How is Colibacillosis diagnosed and treated?

Colibacillosis on broiler farms is usually diagnosed on post-mortem, however a bacterial culture and sensitivity analysis should be performed to rule out other bacterial causes.

In the case of colibacillosis, bacterial culture should yield a pure culture of *E. coli*.

When found, this condition will likely require antibiotic treatment.

MALDI-TOF MS (matrix-assisted laser desorption/ionisation time-of-flight mass spectrometry) can also be used to identify *E.coli*.

Molecular methods, like whole genome sequencing and multi-locus sequence typing, have proven to be useful tools to understanding APECs.[2]

Prevention and Control

With current efforts to reduce antibiotic usage on farms; total control programs including proactive prevention methods are becoming increasingly important.[2]

Total control programs for broilers include:

- Good quality food and water and optimisation of environmental conditions.
- Appropriate vaccination and control programs against primary pathogens.
- Good hygiene management both on farm and at the hatchery.
- Optimal management of breeder flocks to reduce the potential for colibacillosis infections in young chicks.
- Vaccination: The variety of *E. coli* strains and variability of virulence genes means broad protection is often necessary in field conditions and this should be considered when designing an appropriate vaccination program. Autogenous vaccines can be prepared using isolates of strains found on the farm to increase protection against a specific strain, whilst a live vaccine can give broader protection.[3]

Poulvac® E. Coli from Zoetis is the live, attenuated *E.coli* vaccine. It is recommended for mass administration to healthy fowls 1 day of age or older by spray as an aid in the prevention of disease caused by *E. coli*.

Local field studies on broiler farms using Poulvac® E. Coli have shown reduced condemnations, mortality levels and antibiotic usage whilst improving weight gain and Feed Conversion Ratios (FCRs). [4,5]

References:

1. Nolan LK, *et al*. Colibacillosis. *In*: Swayne DE, ed. Diseases of Poultry. 14th Edition. Wiley-Blackwell; 2020 770.

2. Henrik Christensen, Josef Bachmeier & Magne Bisgaard (2020): New strategies to prevent and control avian pathogenic *Escherichia coli* (APEC), *Avian Pathology*, DOI:10.1080/03079457.2020.1845300

3. European Medicines Agency. CVMP assessment report for Poulvac® *E. coli*. Vaccine to reduce mortality and lesions associated with serotype 078. 2012 Jul 02. P 8. Report No.: EMA/CVMP/298291/2012

4. Data on file, Local South African Study

5. Data on file, Local South African study

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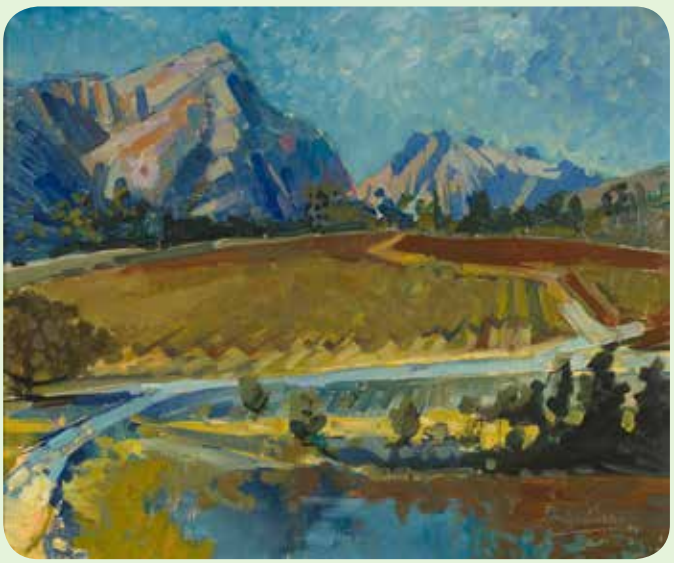
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Recollections 47: Animal Doctor Again

Ian du Toit



Ida's Valley, Stellenbosch – painting by Philip Erskine

My heart was thumping a bit in my throat and my palms were wet as I turned in through the large wrought-iron gates and parked on the extensive bricked area before the low building, nestled between oak trees, called the Ida Minor Veterinary Hospital. Getting out of the car I felt a bit like a school boy arriving at a new school, a mixture of anticipation and nerves.

The warm smell of the lush foliage and flowers enveloped me with a welcome, which said "come and stay". A little way in the distance I could barely make out Joep's house through the luxuriant growth of oak trees. A glimpse of a modest, thatched roof, double story, Cape style house and a glimpse of a tennis court beyond.

In the distance I could hear the tinkling sound of water running down the little stream with a grand name "Krom River" which ran along the edge of the property.

This beautifully serene and almost agrarian setting was the base from which we would share our veterinary skills for the next twenty years. As I have mentioned in a previous episode, this practice was the oldest private practice outside of the Cape Town metro.

Joep had taken it over not long after he qualified in 1956 and had run the practice from a small premises in town, until he had the good fortune of buying this beautiful property sometime in the 60's, when he then built this little hospital.

His smallholding is situated on the edge of the suburb of Ida's Valley at the bottom end of a winding road which leads up past Schoongezicht, with its vines and green pastures where the beautiful Jersey herd of the Barlow's grazed and then past Rustenburg ending at the High-Rustenburg Hydro.

This valley is so steeped in history, with its several iconic Cape Dutch houses, and sumptuous estates, it takes one's breath away.

Over the road from Joep, Major Philip Erskine and his wife Fiona lived, in the expansive and beautiful Cape Dutch style "Ida Manor", with their 10 dogs. It was a common beginning to the morning's activities to look up and see one of the house-maids walking in through the gate with one of the dogs in tow.

Philip was an accomplished artist with a rank from the British army to add to his aristocratic heritage. Larger than life, he prepared all the food for the dogs and cooked for the family too, while the petit, rather pale and almost apologetic Fiona, actually wore the pants in the marriage. It was always quite an experience to visit the family, as the pack of hounds, made up of Great Danes, St Bernards and various cross breeds, down to a couple of toy Dachshunds, would come round the corner baying and yapping like a classic English hunt scene, tearing down on one, ready to swamp you.

Amongst his many accomplishments Philip used his very real artistic talent liberally, with the Medi-clinic, for example, buying several of his paintings when they opened their hospital in Stellenbosch in 1991, to decorate their public spaces.



Schoongezicht Manor today

Further up the valley lies the classic farm of Schoongezicht, the home of the Barlow family for many years. Driving past the generous green pastures surrounded by rows of oaks, one was struck by the similarity to an English pastoral scene, with the gentle yellow-brown Jersey cows, with their large brown eyes, grazing in fields surrounded by white pole fences.

This herd was one of the most highly regarded Jersey studs in the country when I joined Joep. Peter Barlow had been a real support for Joep in the early years and he, in turn had contributed

considerably to building this herd up to the status it had. I had done a few weekend locums for Joep leading up to this time, so I was familiar with the routine, but there was a huge difference walking through the door and feeling part of this well-oiled and charming set-up. We soon found a routine which worked well for both of us. Joep, living next-to the hospital would do the routine small animal surgery every day while I would start the farm visits.

We adapted our arrangement as time went on but actually ended up not spending much time together at the hospital.



Leaving the practise about an hour later with a list of 7 or 8 farm visits I was on my way, feeling quite comfortable to be back at the coalface of what I loved doing. The list involved visits from Simondium to Franschoek and for the first few weeks there was much explaining often with hastily drawn maps on scraps of paper indicating where each premises was, as we had numerous clients who only owned a few cows.

For instance, one of the ways you knew you had "arrived" at the Stellenbosch University was to acquire a small-holding and keep a few cows so you could boast about having your own fresh milk from your very own cows. Our relationship prospered over the next few years as Joep was really an easy chap to get on with and I had determined not to make the same mistakes my erstwhile partner in Swellendam had made during our time together, which had led to quite a bit of friction.

Once every week or two, during a quiet moment I would "visit" with Joep at his house during the morning and have a chat over a cup of tea, allowing ourselves to direct our operation by easy informal agreement. We also avoided moving in the same social circles and so to prevent the possibility of bad feelings between our wives developing as a result of over-familiarity.

We realised very soon that we needed a consulting room in town to be more accessible to the public and so we moved in to part of a house that Joep had bought a few years before, situated near the centre of Stellenbosch, over the road from the Helderberg hostel.

The consulting rooms were very modest, consisting of three rooms. A waiting room, which had been a garage, a consulting room and a store-room. From there we directed any patients needing further treatment to the hospital, where we also did all our small animal surgery. The practice was busy so the waiting room filled up quickly during consulting hours, especially in the evening. While the daily routine was pretty average for any veterinary practice, one incident in those early years stands out in my mind. It involved



one of our clients, who I had informally named "Dik Hugo", because of his enormous size. He had a sort of a dairy but was more of a speculator, so there were plenty of problems that he bought in to his herd and then often sold them on to other unsuspecting, would-be dairy farmers. Brucellosis made its appearance several times.

He was initially a very difficult client to handle, always knowing better and trying to push one around, to get his own way. He was so big that he filled two-thirds of the front seat of his Peugeot bakkie and from behind, the vehicle had a pronounced list to that side. In later years we managed a fairly friendly relationship as he slowly realised that maybe I did know a bit more than he did.

One winter's evening, with the waiting room full, Hugo lumbered in from the cold darkness to the warm, well-lit atmosphere of the waiting room, filled with various animals and owners chatting to each other. Ignoring all the other clients, he stomped towards the door into the consulting room. He arrived there at the same time as Hubert du Plessis, who was next in line and was making his way through the door into the consulting room with his little dog clutched under his arm. Hubert was a professor of music and a well-known pianist, highly cultured and a bit effeminate.

Reaching the door together Hugo simply brushed Hubert aside with his bulk and swept past him into the inner room. He hadn't brought a patient, simply wanting some advice, but totally disregarding anyone else's feelings or turn. After standing before me, shoving his large, florid, meaty face into my space and asking his questions, he then turned and lumbered out again. In all it only took a few minutes.

By this time Hubert had found his way into the room and he was so angry that I am sure I could see little spurts of smoke coming out of his ears and he was literally hopping up and down to relieve his agitation. Hubert was well-known to us as Joep's wife Carol had studied music under him. At this moment he was almost speechless with rage, but finally managed to blurt out a phrase which has stayed with me ever since. "Gross in body, gross in mind", is all he could splutter.

And so our association got under way, an association which was to be as enjoyable and satisfying as my years in Swellendam had been. Yet deep down, there was still this desire that I had to find and meet the "One", who was such a friend to Joseph in the caravan park in Heidelberg a number of years before.



CANINE



Total injectable anaesthesia of dogs and cats for remote location veterinary

Background

Sterilisation clinics often occur in remote places where anaesthesia machines and compressed oxygen are unavailable. This study by Lisa Posner and associates describes the use of total injectable anaesthesia in dogs and cats presented for sterilisation in a remote location.

Results

A total of 100 animals were sterilised; 26 female cats (CF), 22 male cats (CM), 28 female dogs (DF), and 24 male dogs (DM). CF were anaesthetised with dexmedetomidine (20 mcg/kg), ketamine (8 mg/kg) and hydromorphone (0.1 mg/kg) IM. CM were anesthetised with dexmedetomidine (15 mcg/kg), ketamine (5 mg/kg) and hydromorphone (0.1 mg/kg) IM. Insufficient anaesthesia in cats was treated with alfaxalone (1 mg/kg) IM. All cats were administered meloxicam at 0.3 mg/kg SQ. DF were anesthetised with dexmedetomidine (15 mcg/kg), ketamine (7–10 mg/kg) and hydromorphone (0.1 mg/kg) IM. DM were anesthetised with dexmedetomidine (15 mcg/kg), ketamine (5 mg/kg) and hydromorphone (0.1 mg/kg) IM. All dogs had IV catheter and endotracheal tube placed. If $SpO_2 < 91\%$, ventilation was assisted with an Ambu bag. Insufficient anaesthesia in dogs was treated with alfaxalone (1 mg/kg) IV. All dogs were administered meloxicam at 0.2 mg/kg SQ. Following surgery, atipamezole (0.05–0.1 mg/kg) IM was administered to any patient that did not have voluntary movement. All patients survived and were discharged. Less than 25% of cats and male dogs required supplemental anaesthesia. Fifty-seven percent of female dogs required supplemental anaesthesia. More than 89% of patients (in any group) required atipamezole administration. One cat recovered with agitation and hyperthermia (41.1C/ 106F). Some dogs required ventilatory assistance to remain normoxemic while anesthetised.

Conclusion

Total injectable anaesthesia can be accomplished for remote location sterilisation clinics with minimal morbidity.
https://bmcvetres.biomedcentral.com/articles/10.1186/s12917-020-02525-x V

Pharmacokinetics and analgesic effects of intravenous, intramuscular or subcutaneous buprenorphine in dogs undergoing ovariohysterectomy: a randomised, prospective, masked, clinical trial

Background

Buprenorphine is used for canine postoperative pain management. This study by Paulo Steagall and associates aimed to describe the pharmacokinetics and evaluate the analgesic efficacy of buprenorphine (Simbadol, 1.8 mg/mL) administered by different routes in dogs undergoing ovariohysterectomy. Twenty-four dogs were included in a randomised, prospective, masked, clinical trial. Buprenorphine (0.02 mg/kg) was administered intravenously (IV), intramuscularly (IM) or subcutaneously (SC) ($n = 8$/group) 0.5 h before general anaesthesia with propofol-isoflurane. Carprofen (4.4 mg/kg SC) was administered after anaesthetic induction and before ovariohysterectomy. Pain was scored using the short-form Glasgow composite pain scale for dogs (SF-GCPS). Dogs were administered morphine (0.25 mg/kg IV) when SF-GCPS scores were ≥ 5/20. Blood sampling was performed up to 720 min after drug administration. Plasma buprenorphine and norbuprenorphine concentrations were analysed using liquid chromatography mass spectrometry.

Pharmacokinetics of buprenorphine was described using a non-compartmental model (PK Solver 2.0). Statistical analysis was performed using linear mixed models and Fisher's exact test ($p < 0.05$).

Results

Pain scores were significantly higher than baseline after IV (0.5–2 h), IM (0.5–3 h) and SC (0.5–4 h) but not among groups. Prevalence of rescue analgesia was significantly higher in SC (7/8 dogs) than IV (2/8) but not different between IV and IM (3/8) or IM and SC. The frequency of rescue analgesia was not significantly different among groups (IV = 2, IM = 5 and SC = 9). Norbuprenorphine was not detected. For IV, IM and SC administration, clearance was 1.29, 1.65 and 1.40 L/hour/kg, volume of distribution was 6.8, 14.2 and 40.1 L/kg, the elimination half-life was 3.7, 5.7, 22 h, and the area under the plasma concentration-time curved extrapolated to infinity was 15.7, 12.4 and 16.4 ng/mL/hour, respectively. Bioavailability for IM and SC was 62.6 and 40%, respectively. Maximum plasma concentrations of buprenorphine were 6.2 and 1.3 ng/mL at 0.14 and 0.33 h after IM and SC administration, respectively.

Conclusions

The route of administration influences the analgesic efficacy of buprenorphine in dogs. SC administration of buprenorphine failed to provide clinical analgesia due to erratic drug absorption. At the doses administered, the IV and IM routes are preferred for postoperative analgesia. https://bmcvetres.biomedcentral.com/articles/10.1186/s12917-020-02364-w V

Locking compression plates versus locking plates for tibial plateau levelling osteotomy in dogs: progression of osteoarthritis, bone healing score and lameness degree

Background

The partial or complete cranial cruciate ligament rupture is a common skeletal disease affecting the stifle joint in dogs. The tibial plateau levelling osteotomy, performed with several synthesis systems, changed the approach to its treatment in dogs. The aim of this study by Francesco Macri and associates was to compare two types of fixation implants, locking compression system and locking system, evaluating radiographically the progression of osteoarthritis of the stifle joint in dogs with complete cranial cruciate ligament deficiency treated surgically with tibial plateau levelling osteotomy. Moreover, we evaluated bone healing and lameness scores to show biomechanical effects by the implant used. Twenty-eight dogs, who met the inclusion criteria, were divided into two groups. Group A: 14 dogs treated using locking compression plates; Group B: 14 dogs treated using locking plates. Radiographic osteoarthritis scores were evaluated up to 1 year following tibial plateau levelling osteotomy. At each visit, animals were clinically and radiographically assessed. Each dog was evaluated before (T0) and after two (T2) and twelve (T12) months after the surgery. At T2 the stage of bone healing was evaluated. The clinical follow up was performed before the surgery and at 10, 15 and 20 days after the surgery, grading the lameness at walk and trot.

Results

An increase in osteoarthritis score at T12 versus T0 in both groups was detected. A decrease of the lameness score was observed in Group A versus Group B. The healing score system at T2 showed a lower score in Group A versus Group B.

Conclusions

The osteoarthritis score following tibial plateau levelling osteotomy did not differ when comparing the two different fixation systems. The locking compression system allowed a more rapid functional recovery of the limb and a quicker bone healing than the locking system. Locking compression system should be carefully considered for dogs subjected to tibial plateau levelling osteotomy surgery, because it may reduce the recovery time. https://bmcvetres.biomedcentral.com/articles/10.1186/s12917-021-02899-6 V

Evaluation of digital thermography imaging to assess and monitor treatment of police working dogs with naturally occurring hip osteoarthritis

Background

In dogs, thermal imaging has been documented only recently, but a growing interest in this modality has led to studies using thermography to assess pathologies in the canine hip, stifle, elbow, intervertebral disc, and bone neoplasia. This study by JC Alves and associates aimed to evaluate the use of digital thermography in assessing and evaluating treatment response in dogs with hip osteoarthritis (OA) and comparing

>>> 38

its results with an objective measure and two clinical metrology instruments. In an experimental, randomised, double-blinded study, one hundred hip joints of fifty police working dogs with bilateral hip OA were evaluated. A dorsoventral and lateral thermographic image were obtained on days 0, 8, 15, 30, 90, and 180. Mean and maximal temperatures were determined. Additionally, the animal's weight-bearing distribution and radiographic examination of the hip joint (extended legs ventrodorsal view) were performed. Copies of the Canine Brief Pain Inventory (CBPI) and Canine Orthopaedic Index (COI) were obtained. Results were analysed by ANOVA, followed by an LSD post-hoc test, and correlations were assessed with Spearman correlation coefficient, with $p < 0.05$.

Results

Values recorded on the lateral view were higher than those on the dorsoventral view. No differences or correlations were found between Orthopedic Foundation for Animals hip grades and temperature. Digital thermographic images showed a weak significant correlation with weight-bearing evaluations ($r = 0.13$, $p < 0.01$) and different clinical metrology instruments scores ($r = -0.25$, $p < 0.01$ for pain severity score, and $r = -0.21$, $p = 0.04$ for gait). It also correlated with radiographic findings, specifically the circumferential femoral head osteophyte and caudolateral curvilinear osteophyte.

Conclusion

To our knowledge, this is the first study presenting the digital thermography assessment of police working dogs submitted to treatment for hip OA. Digital thermography, mainly based on a lateral view evaluation, showed a weak significant correlation with stance analysis and clinical metrology instruments scores. https://bmcvetres.biomedcentral.com/articles/10.1186/s12917-021-02876-z V

CAMELID

Acute fasciolosis in an alpaca: a case report



Background

The popularity of new world camelids, particularly alpacas, is growing rapidly in Ireland, presenting a clinical challenge to veterinary practitioners who may not have worked with these species previously.

To the authors' knowledge, the clinical course of a case of acute fasciolosis in an alpaca has not previously been reported, and fasciolosis has not been reported at all in alpacas in Ireland, making this case report (by C.J. Hayes and associates) a valuable addition to the current literature.

Case presentation

A three-year-old male castrated huacaya alpaca was admitted to UCD Veterinary Hospital with a two-day history of colic and tenesmus. He had been treated with albendazole, dexamethasone and potentiated amoxycillin by the referring veterinary practitioner with no response.

On initial clinical exam, sensitivity to abdominal palpation was the only abnormality. However, the alpaca proceeded to show abnormal lying positions, tenesmus and reduced faecal output over the next 24 h. A general blood panel demonstrated moderate anaemia, marked hyperglobulinaemia and moderately increased hepatocellular and hepatobiliary enzyme activity. Abdominal radiography revealed enlargement of the first forestomach compartment without evidence of gastrointestinal obstruction or peritonitis.

An abdominal ultrasound exam revealed an elongated, heterogenous mass in the caudoventral abdomen that appeared to be contiguous with the liver. FNA of this mass revealed that it was in fact a liver lobe with biliary stasis and inflammation. Faecal sedimentation demonstrated *Fasciola hepatica* eggs.

In spite of treatment with triclabendazole and supportive treatment including blood transfusion, the alpaca's condition continued to deteriorate and he was euthanised. On post-mortem exam, acute fasciolosis was diagnosed.

Conclusions

The clinical presentation and course of a case of acute fasciolosis in an individual alpaca is described, including the results of a range of diagnostic tests that were carried out. The final diagnosis is supported by a description of post-mortem findings. This information will serve as a resource for veterinary practitioners involved in the diagnosis and treatment of similar cases.

https://bmcvetres.biomedcentral.com/articles/10.1186/s12917-021-02921-x V

EQUINE

Effect of diet on equine peripheral caries



This retrospective review by Kirsten Jackson and co-workers in Australia investigated the effect of replacing oaten hay with a non-cereal hay on equine peripheral caries in 42 cases.

Recent research suggests that diets with high water soluble carbohydrate (WSC) content are associated with high risk of peripheral caries. This study investigated whether the peripheral caries process can be halted if oaten hay is removed from the diet and replaced with a non-cereal hay which is typically lower in WSC. Forty-two horses with peripheral caries were switched from oaten hay to a non-cereal hay or straw. Photographs taken at the time and again at subsequent visits were anonymised, randomised, and scored by six equine veterinary dentists using the Jackson et al. 'Peripheral Caries Grading System' grading scale. At follow-up, 69% of cases were marked as inactive, compared with 47.6% of cases at baseline. Significantly lower grades of peripheral caries were observed in the gingival, middle and occlusive third of the molars at follow-up compared with baseline.

Significant improvements were not observed in the premolars. Recommending that clients change their horse's diet from oaten hay to a lower WSC hay may be useful as part of long- term management of equine peripheral caries.

Subconjunctival enucleation and orbital implant

This study by Caroline Betbeze and co-workers at Mississippi State University, USA, aimed to develop a protocol for subconjunctival enucleation and orbital implant placement in standing horses and to document short- and long-term complications, cosmesis, and client satisfaction.

A standardised protocol of surgical site cleaning, patient preparation, sedation, local nerve blocks, surgical procedure, and post-operative care was performed on 20 horses. Reasons for enucleation included corneal lacerations, perforated ulcers, end-stage uveitis, fungal keratitis, endophthalmitis, glaucoma, and stromal abscess. The mean surgery time was 64 min and the most common implant size used was 45 mm diameter. Complications included mild post- operative colic, incisional swelling, and drainage from the surgical site that resolved without implant removal. One-year follow-up information was available for 19/20 horses and all owners were happy with the cosmetic appearance.

Subconjunctival enucleation and orbital implant placement in standing horses was a safe alternative to general anaesthesia when a standardised perioperative protocol was used.

No clinically relevant complications developed, and owner satisfaction and cosmesis were good.

Antimicrobial treatment in foals

In this study Laura Huber and co-workers in the USA investigated the association between antimicrobial treatment of subclinical pneumonia in foals and selection of macrolide- and rifampicin-resistant Rhodococcus equi strains (MRRE).

A questionnaire was sent to 20 participating horse- breeding farms in central Kentucky, 10 that used thoracic ultrasonographic screening (TUS) to identify foals with subclinical pneumonia combined with subsequent administration of macrolides and rifampin to affected foals (TUS farms) and 10 farms that did not (non-TUS farms) to gather information about their 2019 foaling season. A total of 720 soil samples were collected during January, March, May, and July 2019 for bacterial culture and antimicrobial susceptibility testing to identify any isolates of MRRE. Results were compared for TUS farms versus non-TUS farms. Linear mixed-effects modelling was used to evaluate for potential associations between the soil concentration of MRRE and the use of TUS. Overall, the sum of the mean soil concentrations of MRRE was significantly higher for TUS farms than non-TUS farms. These findings indicated that farms that use TUS to identify foals with subclinical pneumonia for antimicrobial treatment select for antimicrobial-resistant *R. equi* strains. Prudent use of antimicrobials to treat foals with subclinical pulmonary lesions attributed to *R. equi* is recommended.

Chronic collateral sesamoidean desmopathy

This study by Ashraf Abu-Seida and Yahya Elemmawy from Cairo University, Egypt, recorded the magnetic resonance imaging (MRI) features of chronic collateral sesamoidean ligament (CSL) desmopathy in eight draught horses and confirmed these features by histopathology.

All horses showed positive proximal digital nerve block, positive front digital flexion test, and negative interphalangeal extension test. Radiography revealed no osseous abnormalities in all feet. MRI features of chronic CSL desmopathy included thickening of the ligament with increased moderate intensity in fast low-angle shot, T1 turbo spin echo, and proton density images in the affected part of the ligament. Chronic CSL desmopathy was concomitant with deep digital flexor tendon injury and distal sesamoidean impar desmitis. In most chronic cases of CSL desmopathy, heterogeneous signal intensities were seen with multiple foci of low signal intensities interlaced with increased moderate signal intensities of thickened CSL. Histopathology confirmed the MRI findings and revealed separated bundles and fascicles by septa of less organised and loose connective tissues containing fibroblasts and loose collagen fibres. Multifocal islands of cartilaginous metaplasia, mineralised areas, and dystrophic calcification were observed in the injured ligament. In conclusion, chronic CSL desmopathy may progress to cartilaginous metaplasia and dystrophic calcification. MRI is a beneficial diagnostic and prognostic tool for chronic CSL desmopathy, and histopathology is a gold standard to document the MRI findings associated with CSL desmopathy in draught horses.

(All equine research reports from https://beva-onlinelibrary-wiley-com.uplib.idm.oclc.org/doi/10.1111/eve.13509)

Water may be an effective treatment for metabolic syndrome



Researchers at the University of Colorado Anschutz Medical Campus have discovered that fructose stimulates the release of vasopressin, a hormone linked to obesity and diabetes. They also found that water can suppress the hormone and alleviate these conditions in mice. The clinical significance of this work is that it may encourage studies to evaluate whether simple increases in water intake may effectively mitigate obesity and metabolic syndrome. The study was recently published in the journal *JCI Insight*.Miguel Lanaspa, PhD, and Richard Johnson, MD, both professors at the University of Colorado School of Medicine wanted to understand why vasopressin, which maintains the body's water levels, was elevated in those with obesity and diabetes.

They fed mice fructose water and found that it stimulated the brain to make vasopressin. The vasopressin in turn stored the water as fat causing dehydration which triggered obesity. Treating the mice with non-sugary water reduced the obesity. According to Lanaspa, this is the first time scientists have shown how vasopressin acts on dietary sugar to cause obesity and diabetes. "We found that it does this by working through a particular vasopressin receptor known as V1b," he said. "This receptor has been known for a while but no one has really understood its function. We found that mice lacking V1b were completely protected from the effects of sugar. We also show that the administration of water can suppress vasopressin and both prevent and treat obesity." The researchers also discovered that dehydration can stimulate the formation of fat. "This explains why vasopressin is so high in desert mammals as they do not have easy access to water," Johnson said.

"So vasopressin conserves water by storing it as fat." This data fits with observations showing that obese people often have signs of dehydration. It also explains why high salt diets may also cause obesity and diabetes. The researchers found that water therapy in mice effectively protected against metabolic syndrome. "The best way to block vasopressin is to drink water," Lanaspa said. "This is hopeful because it means we may have a cheap, easy way of improving our lives and treating metabolic syndrome." Johnson summed up the findings this way. "Sugar drives metabolic syndrome in part by the activation of vasopressin. Vasopressin drives fat production likely as a mechanism for storing metabolic water," he said. "The potential roles of hydration and salt reduction in the treatment of obesity and metabolic syndrome should be considered."

(Source: http://scienceblog.com)

NIH Scientists identify nutrient that helps prevent bacterial infection

Scientists studying the body's natural defences against bacterial infection have identified a nutrient — taurine — that helps the gut recall prior infections and kill invading bacteria, such as Klebsiella pneumoniae. The finding, published in the journal Cell by scientists from five institutes of the National Institutes of Health, could aid efforts seeking alternatives to antibiotics. Scientists know that microbiota can protect people from bacterial infections, but little is known about how they provide protection. Scientists are studying the microbiota with an eye to finding or enhancing natural treatments to replace antibiotics, which harm microbiota and become less effective as bacteria develop drug resistance. The scientists observed that microbiota that had experienced prior infection and transferred to germ-free mice helped prevent infection with Klebsiella. They identified a class of bacteria — Deltaproteobacteria — involved in fighting these infections, and further analysis led them to identify taurine as the trigger for Deltaproteobacteria activity.

Taurine helps the body digest fats and oils and is found naturally in bile acids in the gut. The poisonous gas hydrogen sulphide is a by-product of taurine. The scientists believe that low levels of taurine allow pathogens to colonise the gut, but high levels produce enough hydrogen sulphide to prevent colonisation. During the study, the researchers realized that a single mild infection is sufficient to prepare the microbiota to resist subsequent infection, and that the liver and gallbladder — which synthesise and store bile acids containing taurine — can develop long-term infection protection. The study found that taurine given to mice as a supplement in drinking water also prepared the microbiota to prevent infection. However, when mice drank water containing bismuth subsalicylate — a common over-the-counter drug used to treat diarrhoea and upset stomach — infection protection waned because bismuth inhibits hydrogen sulphide production.

(Source: https://www.nih.gov)



Colorised scanning electron micrograph showing carbapenem-resistant Klebsiella pneumoniae interacting with a human neutrophil (NIAID)

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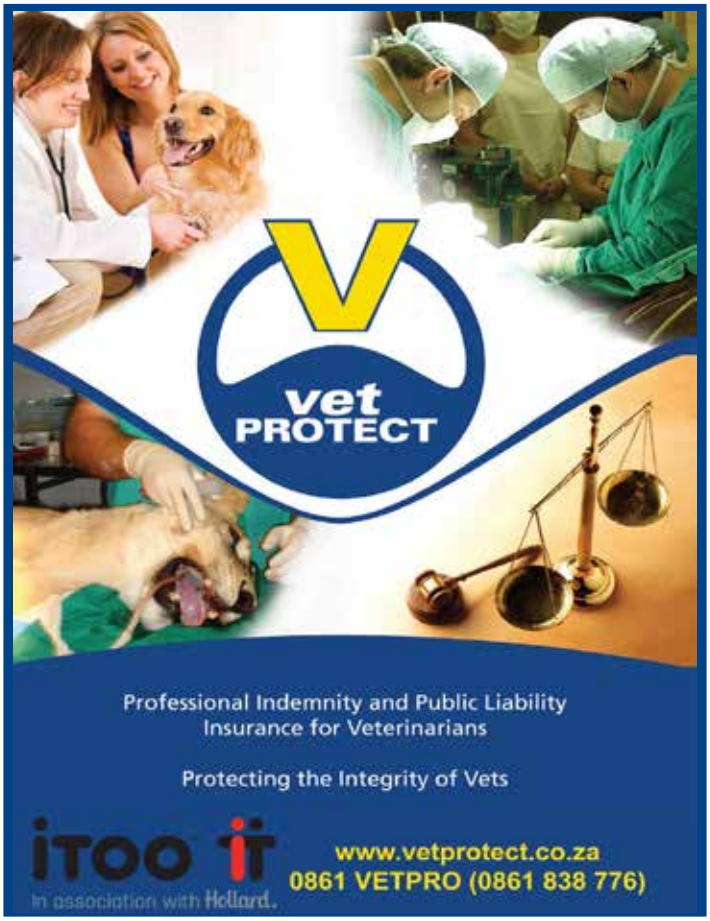
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JOHANNESBURG

Veterinarian needed for small-animal clinic in Johannesburg. Position would suit candidate interested in owning their own clinic. New graduates welcome to apply. Contact 082 336 0670 or email jansenanton898@gmail.com Ref21JA04

PRETORIA-NOORD

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Think you're the veterinarian we are looking for?

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July 2021

- **NVCG Bush Break.**
  POSTPONED TO 2022 DUE TO COVID-19
  10-11 July
  Venue: Skukuza, Kruger National Park.
  Info: Madaleen Schultheiss, Vetlink, 012-346-1590, www.vetlink.co.za

- **Mpumalanga Branch Congress.**
  POSTPONED: DATE TO BE ADVISED
  16-17 July
  Venue: Skukuza, Kruger National Park.
  Info: Madaleen Schultheiss, Vetlink, 012-346-1590, www.vetlink.co.za

August 2021

- **NVCG Congress with David Church & Jill Maddison.**
  POSTPONED TO 06-16 September 2022 DUE TO COVID-19
  Durban
  Cape Town
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- **18th SASVEPM Annual Congress.**
  Hybrid Event
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  Venue: Forever Resort Warmbaths, Bela-Bela & Online
  Info: www.savetcon.co.za or corne@savetcon.co.za





September 2021

- **Southern Cape Branch Congress.**
  10-11 September
  Venue: Hyatt Hotel Oubaai, George
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- **49th Virtual PARSA Conference.**
  14-15 September
  Info: corne@savetcon.co.za or https://www.savetcon-admin.co.za/Register/main.php

- **4th International Congress on Parasites of Wildlife.**
  POSTPONED DUE TO COVID-19
  19-22 September (Postponed to September 2022)
  Venue: Skukuza, Kruger National Park
  Info: http://savetcon.savetcon.co.za/icpow21-2/ or corne@savetcon.co.za

- **RuVASA Annual Congress.**
  20-22 September
  Venue: The Boardwalk Hotel, Port Elizabeth
  Info: Madaleen Schultheiss, Vetlink, 012-346-1590, www.vetlink.co.za

October 2021

- **AOAC Sub-Saharan Annual Congress.**
  04-07 October
  Venue: Misty Hills Country Estate, Gauteng
  Info: corne@savetcon.co.za

- **Western Cape Branch Congress.**
  08-09 October
  Venue: to be confirmed
  Info: Madaleen Schultheiss, Vetlink, 012-346-1590, www.vetlink.co.za

- **Eastern Free State Branch Congress.**
  15-16 October
  Venue: to be confirmed
  Info: Madaleen Schultheiss, Vetlink, 012-346-1590, www.vetlink.co.za

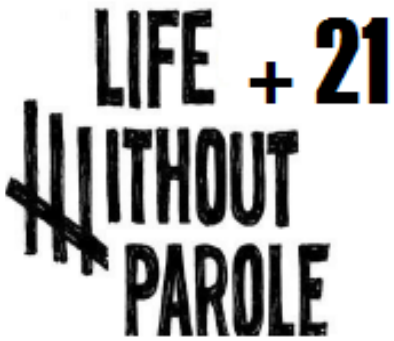
November 2021

- **South African Association for Laboratory Animal Science (SAALAS).**
  09-10 November
  Venue: Potchefstroom University, GKSA Auditorium
  Info: Madaleen Schultheiss, Vetlink, 012-346-1590, www.vetlink.co.za





Life plus 21 without parole



Mike Lowry

Mike Lowry has been in veterinary practice for "life plus 21" years.
In this column, he shares his experiences and opinions.

Mike took a break this month and asked that we publish this article instead. "What an amazing piece describing South Africa", says Mike. The author is unknown.

I sit here quietly thinking about what it means to me to be South African, a visitor to South Africa or even African. It seems easier to explain the effect that this land has on me... The perfume of rain on African soil. The scent of woodfires drifting across the highveld on winter evenings. There's a very distinctive aroma just as one starts coming into George/Knysna/Plett (I've never figured out which herb it is), in much the same way the smell of wild sage defines the area around Santawani in Botswana.

The odour of thatch in a game lodge. The bouquet of dust and the various plants when one gets into the bush, sometimes a whiff of something dead. The tang of the ocean at the seaside. The smell of 'moer' coffee over an early morning fire, or the delicious aroma of roasting meat over flames – whether you call it a braai or shisa nyama (but definitely NOT a barbeque, a barbie, or a ghastly NZ sausage sizzle!)

There is also something about the light here. "Santorini blue"... I don't know if that's an actual colour, but it seems to describe the hue of the highveld sky on a winter's day to perfection. We live in "big sky" country – whether blue, or orange in sunset, or dark grey and rent by lightening, or velvet black and filled with stars that seem close enough to touch – the sky is ever present.

As is the moon. I am always aware of the moon, from a sickle moon to the full fecund globe that is full moon. Silver light gilding thorn trees, juxtaposed against dark shadows on the savannah, is not a sight one easily forgets.

The caw of the ubiquitous, raucous hadedah in suburbia, the burbling call of a rainbird (Burchell's coucal) when a thunderstorm is on its way, the beautiful Diederick's cuckoo announcing the arrival of spring, the screech of a barn owl or the evocative call of the fish eagle. Jackals calling as the sun goes down, a lion's roar quite literally making the air reverberate, or the chilling whoops of the hyenas.

The cacophony of barking geckos that start up as the sun goes down over Deception Pan, or a veritable orchestra of frogs around a pan in the summer months. Cicadas shrilling on days so hot that the air shimmers, or a nightjar calling in the dead of night in the bushveld.

Days of withering heat often followed by the lightest cool breeze, just as the sun is setting. A gentle little wind, which plays with your hair like an absent-minded lover, reminding you that the cool of the night will soon be with you. Walking in the bush very early in the morning, the sun's rays catch the dew on spiders' webs, reminding you that life, both seen and unseen, is all around you.

Trout fishing as the sun peeps over the horizon in Dullstroom, so cold that the water droplets freeze on your line…

The colours of this land are not subtle either. The blood red of the coral tree, the green metallic glint of sunbirds, the striped black and white hide of the zebra, or sapphire blue of a kingfisher.

The miles and miles of yellow and orange daisies in Namaqualand in September, or pink and white swathes of cosmos along the roads in April. The lilac and turquoise of the roller, the tawny hide of a lion or the emerald green of a little dung beetle that makes its appearance in the summer months.

From the golden dunes of the Namib to an unimaginable number of greens in the Knysna Forest. All vivid and arresting.

Talk to me of Morrungulo or Tsodilo Hills, the great Drakensberg, Platteland dorps and the great Karoo. The warmth of Sodwana Bay or the icy kelp forests of the Atlantic Ocean. Of wine farms and fynbos in the Cape, to meerkats and diamonds in the north. Show me our people, in so many hues, with brightly coloured traditional costumes – and even brighter smiles.

All of this creates a frisson of excitement, passion each and every day, a vivid, immediate sense of being alive that I have found nowhere else….

These are my people.

This is my land.

Because I am, at the very core of my being, a child of Africa!

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PROTECTING OUR INDUSTRY: FROM CONCEPTION TO CONSUMPTION

DAY 01 | 20 September

07:00 Registration
07:30 Welcome
07:40 Reproductive Management of the Dairy Cow: What's Normal and What's Not, and How to Improve it if it's Not: Part 01 - *Dr Scott McDougall* *(sponsored by Ceva)*
08:25 Challenges and Opportunities in Cattle Production: A Veterinarian's Perspective - *Dr Calvin Booker* *(sponsored by Zoetis)*
09:00 Risk Factors for Bovine Brucellosis in KwaZulu-Natal - *Dr Thami Nogwebela*
09:10 Tissue Sampling, What Are We Talking About - *Dr Johan De Meulemeester*
09:45 Introducing the Exhibitors and Pharmaceutical Trade - *Dr Faffa Malan*
10:20 Tea
10:40 Forecast of the South Africa Economy - *Ms Nicky Weimar (Chief Economist: Nedbank)*
11:10 Reproductive Management of the Dairy Cow: What's Normal and What's Not, and How to Improve it if it's Not: Part 02 - *Dr Scott McDougall* *(sponsored by Ceva)*
11:55 Identifying Opportunities to Enhance Value to your Clients - *Dr Calvin Booker* *(sponsored by Zoetis)*
12:40 Lunch
13:40 Product Promotion: Ascendis
13:55 TBA
14:40 Effective Decision Making in Cattle Production - *Dr Calvin Booker* *(sponsored by Zoetis)*
15:25 Tea
15:50 The History of RuVASA, RPG, LHPG - *Dr Francois van Niekerk*
16:25 How to Analyse Research and Scientific Articles - *Dr Peter Thomson*
16:55 SAVC - *Dr Alfred Kgasi*
17:10 SAVA/SAVF - *Mr Gert Steyn*
17:25 AGM
17:55 Braai

DAY 02 | 21 September

07:00 Registration
07:30 Early morning session: Workshop to Establish a Common, Sustainable Approach to Liver Fluke Control - *Prof Gareth Bath*
08:15 Interventions that Improve Reproductive Performance: The Biology and Economics - *Dr Scott McDougall* *(sponsored by Ceva)*
09:00 BRD - What Do We Know and Where Do We Go from Here - *Dr Calvin Booker* *(sponsored by Zoetis)*
09:45 Trace Mineral Supplementation to Sheep in High Intensity Systems - *Ms Anri Strauss*
10:20 TrichLabCheck - A Voluntary Trichomonosis Inter-laboratory Project in South Africa - *Dr Dietmar Holm*
10:55 Animal Health Forum - *Dr Chris van Dijk*
11:10 Tea
11:40 Product Promotion: Boehringer Ingelheim
11:55 Interventions that Improve Reproductive Performance: The Biology and Economics - *Dr Scott McDougall* *(sponsored by Ceva)*
12:40 Opportunities to Improve Mastitis Control, Antimicrobial Stewardship and Farmer Engagement - *Dr Scott McDougall* *(sponsored by Ceva)*
13:25 Lunch
14:25 Product Promotion: Boehringer Ingelheim
14:40 How New Technology Adds Profit to a Real Farm, Working in Harmony with Vets - *Mr Paul Westaway*
15:15 Tea
15:45 The Effect of Different Volume Setting on Milking Machine Take-off Times - *Dr Inge Marie Petzer*
16:15 New Strain of *Staphylococcus Aureus* Challenging the Conventional Identification - *Dr Joanne Karzis*
16:45 A Century of Veterinary Education in South Africa - Prof Dietmar Holm
19:00 Gala Evening

DAY 02 SAVSEG Parallel Session

13:40 - 17:10 Certification Requirements for Export: SAVSEG (South African Veterinary Semen and Embryo Group). *More information to follow*

DAY 03 | 22 September

07:00 Registration
07:30 Opportunities to Improve Mastitis Control, Antimicrobial Stewardship and Farmer Engagement - *Dr Scott McDougall* *(sponsored by Ceva)*
08:15 The Use of Technology in the Feedlot - *Dr Calvin Booker* *(sponsored by Zoetis)*
09:00 Product Promotion: OBP
09:15 Certification of Beef Calves for the Feedlots - *Dr Danie Odendaal*
09:45 Tea
10:15 Product Promotion: Zoetis
10:30 Debunking the Myths About Livestock's Environmental Impact - *Dr Frank Mitloehner*
11:05 BRD Treatment Failure in Feedlots - *Dr Calvin Booker* *(sponsored by Zoetis)*
11:50 What is Food for Cattle is Good for Producers - *Prof MP Da Costa*
12:25 Lunch
13:25 Equine Colic for the Rural Practitioner - *Dr Arnold Mahne*
14:00 Rift Valley Fever - *Dr Sello Maboe (OBP)*
14:35 Semi-intensive Sheep Production and Nutrition - *Mr Joubert Nolte (Meadow)*
15:10 Tea
15:25 Product Promotion: TBC
15:40 Paratyphoid in Cattle - *Dr Maryke Henton*
15:55 TBA - *Dr Kenneth Botha (Barnlab)*
16:30 Close of Congress (Lucky draw winners)

21 YEARS vetlink

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More information to follow. Programme and dates are subject to change