



**ETHICAL AGENTS LTD**  
**VETERINARY MARKETING**

# EA NEWS

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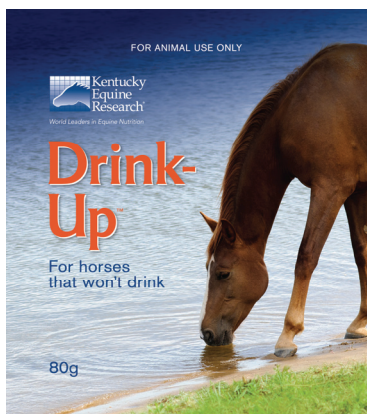
## Inside this issue:

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## Special points of interest:

- \* New manual looking at equine electrolytes
- \* Featuring generics and how some have more value than others
- \* A whimsical look at quantum physics and pharmacological relevance

## Difficult Year Ahead

Things have been pretty tight in the dairy farming world for some time now, and they don't look like getting better soon.

In the 2007-8 worldwide recession New Zealand was not hit as hard as some countries because the dairy industry was still strong. This flowed on to the veterinary industry, which remained remarkably buoyant in comparison to other sectors of the economy.

The downturn in dairy last year had a profound effect but it would have not been too difficult to be positive if the expected bounce back happened in 2016.

However it looks like it will be at least another 12 months before the dairy industry recovers to be anything like its former self.

It has been commonly accepted that dairy farmers, on the whole, could comfortably tighten their belts and survive one bad year but two would create severe difficulties.

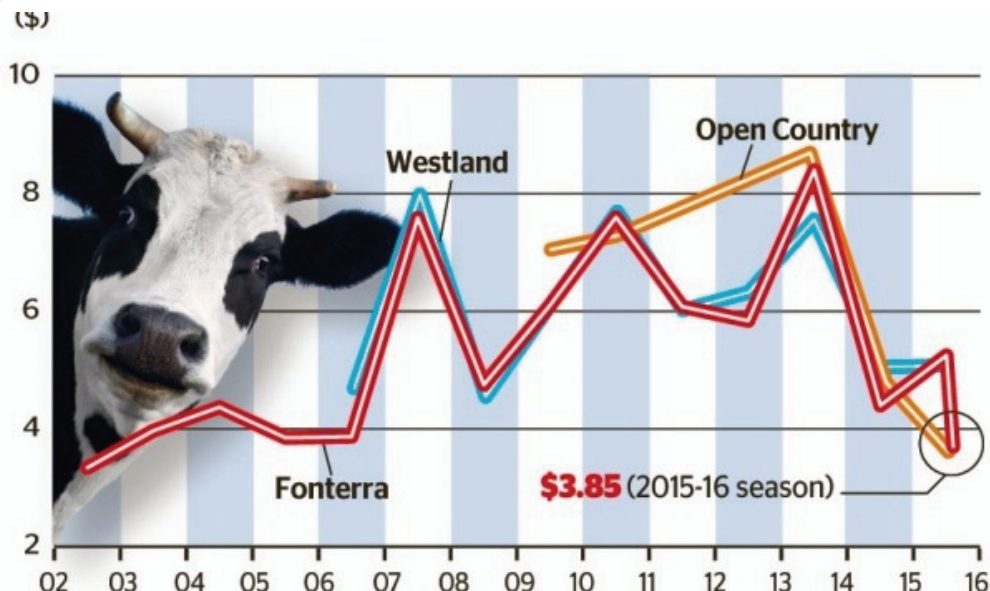
This is the situation being faced out in the country areas at the moment and is not being helped by the uncertainty of it all; nobody really seems to know when it will end.

The graphic below appeared on the Stuff.co.nz

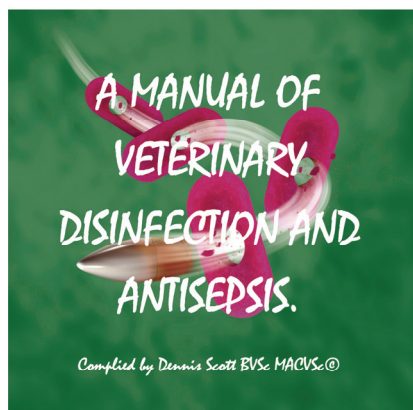
website last August. The Fonterra payout has since been revised up to mid 4s then back down to \$4.25. Some analysts believe, with the latest fall on the global auction, it may go down even further so that the August prediction of \$3.85 is not far off the mark.

This is not light at the end of the tunnel and forecasts another difficult year ahead for both the farming and veterinary industries.

Other sectors such as tourism are booming; let us hope that the dairy industry turns its fortunes around, and sooner rather than later.



## Another Manual On The Way



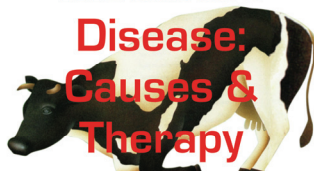
Over recent years Ethical Agents Veterinary Marketing have put out several manuals to aid nurses and practitioners in various aspects of their work. The first, many years ago, was the Disinfection Manual, which has already been rewritten as newer technology has become available.

Next up was a Metabolic Disease Manual which also proved ex-

tremely popular, not only with practices but also with farmer clients. This manual is due for some parts to be rewritten this year to stay abreast of modern data.



### A Manual Of Bovine Metabolic Disease: Causes & Therapy



Dennis Scott BVSc MACVSc



Sutures and suture materials may not be the sexiest subject in the veterinary lexicon but there was a massive hole there that needed filling.

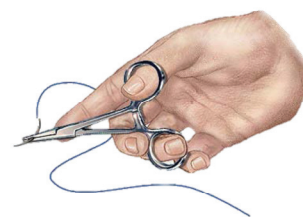
Again EA produced a manual that covered the fine points in a simple,

easy to understand manner. This has also proved to be very well-liked and accepted by practices.

Late last year, with the emphasis on hygiene and reduction in antibiotic usage there was a push for practices to adopt infection control protocols for veterinary clinics. Again it was not a popular type subject and there was a dearth of

*(Continued on page 3)*

## Manual of Suture Materials



Dennis Scott BVSc MANZCVS



## Don't Panic

Cruising at 32,000 feet the aeroplane suddenly shuddered and an anxious passenger looked out the window.

"Heaven help us," he screamed, "One of the engines just blew up."

Scared passengers left their seats and came running over.

While they were looking the plane was rocked by a second blast as an engine exploded on the other side.

The passengers went into a mild

panic; not even the stewardesses were able to maintain order. Just then, standing tall and smiling confidently, the pilot strode from the cockpit.

"There is nothing to worry about," he assured everyone.

His tranquil demeanor made everyone feel better and they sat down as he calmly walked to the door of the aircraft. He took several packages from under the seats and began handing them to the flight at-

tendants. Each crew member attached the package to their backs.

"Hey wait a minute, aren't those parachutes?" asked an alert passenger.

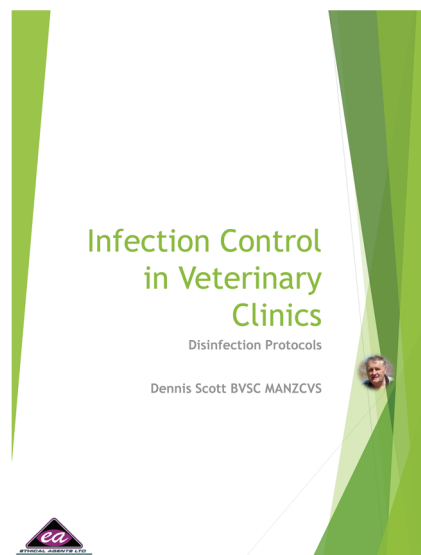
"Yes they are," replied the pilot calmly.

"But I thought there was nothing to worry about?"

"There isn't," replied the pilot as a third engine exploded, "we're going to get help!"

## Another Manual On The Way

(Continued from page 2)  
information commonly available. However EA managed to unearth some very relevant protocols from



human medicine and adapt them to the New Zealand market and again these have been well received, particularly by nurses who have proven, as they have in the human medicine field, to be the

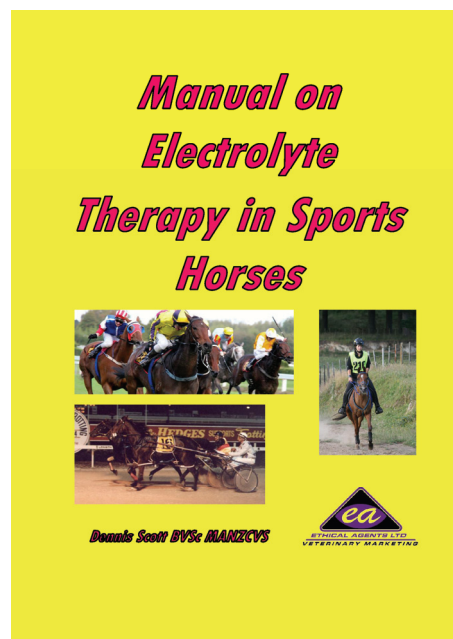
most active in applying the techniques, well done nurses!

Upon request we have another manual on the way. Again it is a rather simple subject that appears more complicated than it really is, electrolyte replacement in sports-horses.

Demystifying the many traditions and applying simple common sense is not too difficult and it will not be a massive document.

Old myths such as alkaline and acidic conditions are addressed plus the question of what actually is a heavy sweating horse (it is not from sudden exertion such as in a thoroughbred race but rather a horse that sweats a lot continually, such as an endurance horse.)

The old Victorian era advice to public schoolgirls that "horses sweat, men perspire and ladies merely glow" is investigated and seen to actually have some basis in fact!



The manual should be very useful to anyone dealing with horses and, like all the other manuals, will have a simple multiple choice and open book questionnaire to complete. All who complete the questionnaire will receive a signed certificate attesting to the fact.

## Poor Old Fluffy

A guy comes home to find his dog with the neighbours' pet rabbit in his mouth.

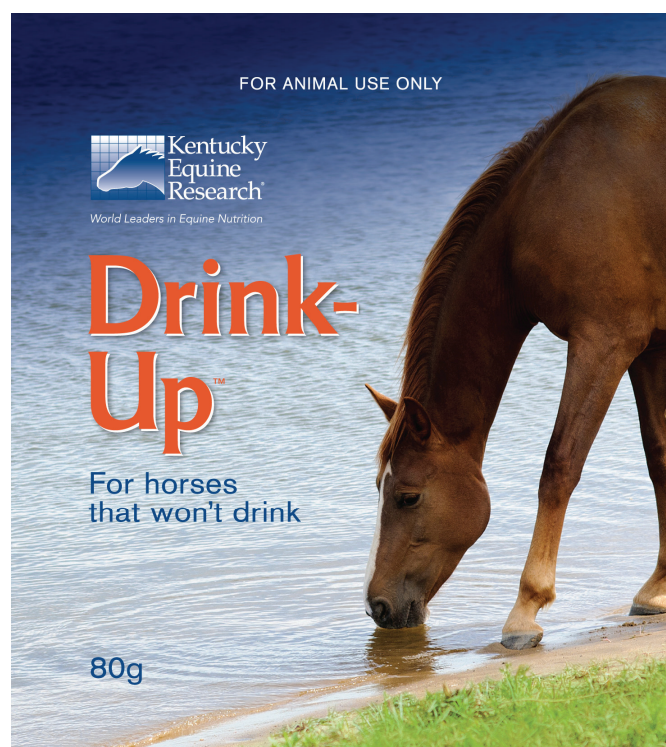
The rabbit is very dead and the guy panics.

He takes the dirty, chewed up rabbit into the house, gives it a bath, blow dries its fur and puts the rabbit back into the cage in the neighbours' house, hoping they will think it died of natural causes.

A few days later the neighbour is outside and asks the guy, "Did you hear that Fluffy died?"

The guy stumbles around and says, "So what happened?"

The neighbour replies. "We found him dead in his cage one day but the weird thing is that the day after we buried him we went outside and someone had dug him up, gave him a bath and put him back in the cage. There must be some real sick people out there!"





## Generics and Value



A generic drug is a drug defined as "a drug product that is comparable to a brand/reference listed drug product in dosage form, strength, quality and performance characteristics, and intended use."

When generic products become available, the market competition often leads to substantially lower prices for both the original brand name product and the generic forms.

A generic drug must contain the same active ingredients as the original formulation. According to the U.S. Food and Drug Administration (FDA), generic drugs are identical or within an acceptable bioequivalent range to the brand-name counterpart with respect to pharmacokinetic and pharmacodynamic properties. By extension, therefore, generics are considered (by the FDA) identical in dose, strength, route of administration, safety, efficacy, and intended use.

Generic drugs are usually sold for significantly lower prices than their branded equivalents. One reason for the relatively low price of generic medicines is that competition increases among producers when drugs no longer are protected by patents.

Companies incur fewer costs in creating generic drugs (only the cost to manufacture, rather than the entire cost of development and testing) and are therefore able to

maintain profitability at a lower price.

For as long as a drug patent lasts, a brand name company enjoys a period of market exclusivity or monopoly, in which the company is able to set the price of the drug at a level which maximizes profitability.

The profit often greatly exceeds the development and production costs of the drug usually to offset the cost of research and development of other drugs which do not make a profit or do not successfully pass clinical trials.

The advantage of generic drugs to consumers comes in the introduction of competition, which prevents any single company from dictating the overall market price of the drug.

**Value equals benefit minus cost and, as any accountant in that exciting world they live in can tell you, there are always two sides to a balance sheet.**

Therefore, to many, the value of generics is simply a question of cost, and it often comes down to the lowest common denominator.

On the other hand many recognise the value of the parent product and are unwilling to change allegiance for a few shekels.

There is no real right or wrong with either approach but it really is common sense to assess value itself.

The rule is that everything has a price but not everything has a value!

Value equals benefit minus cost and, as any accountant in that exciting world they live in can tell you, there are always two sides to a balance sheet. Reducing cost with the same benefit is the standard way of increasing value to the customer.

However raising the benefit itself is another way of achieving the same result and, if one can increase benefit at the same time as reducing cost then we have a win/win situation.

The bottom line is that, with a generic product, what is the value? First of all is it similar to the parent but at a much lower cost, therefore having increased value? On the other hand is it actually a superior product to the parent, technological advancement does make that sort of thing happen, with added features and benefits? In the latter case the generic is very often still more economical to use than the parent and is far and away better value than the simple generic that sells on price alone. This is a "value added generic."

Examples of value added generics are the dynamilled penicillin product Propercillin, the ergonomically designed spray bottle for Fiprovect Spray, and, one of the greatest examples of all, the highly palatable Clavaseptin.



## Now This Is Value!

There was always going to be a race, once the patent for amoxicillin/clavulanic acid combination expired, to have the first generic on the market. Thanks to good contacts Ethical Agents won that one hands down in New Zealand with the launch of Vetamox. Vetamox is a straight generic whose main advantage is price. Most of the other generics that have come on to the market since Vetamox are the same, the only advantage being cheaper.

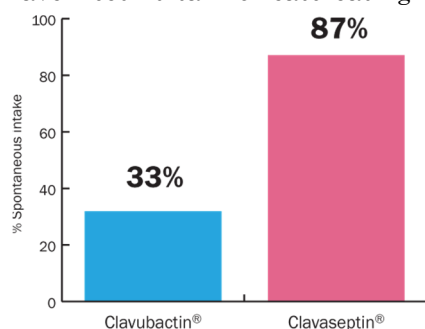
One of the generics that is not simply cheaper, but also has value added characteristics, is Clavaseptin from Vétoquinol. Being a value added generic (see previous article) it is not only a simply better product than any of the generics on the market, it is actually superior to the parent product itself. The R&D department from Vétoquinol have provided a product that is, in the immortal words of Tina Turner, simply the best!

**you don't need to use a 3rd or 4th generation cephalosporin to get convenience in dosing.**

Recently Vetamox has become temporarily unavailable due to upgrading of manufacturing facilities, which actually may be quite opportune. Other “me too” type generics have come onto the market and are trying to fill the gap but they have

problems; it is not difficult to make a low cost product with these well established active ingredients but palatability has always been an issue with clavulanic acid. A product is not cheap if it does not work, and if low palatability causes lack of compliance then it will not work.

This then is the beauty of Clavaseptin, and the reason that it is actually superior to the parent product. The clever R&D team at Vétoquinol have not only made a smaller easy to administer tablet, they have succeeded in making it highly palatable, especially for those fussy cats. Practitioners who have used it talk of cats eating it



out of their hands. Palatability trials, available on request, from Vétoquinol, show the comparison with common market brands.

For the very odd animal that does not take it out of hand it is readily disguised in food, unlike many amoxicillin/clavulanic acid combinations, so again there is little problem with administration.



In this age of responsible antimicrobial usage it means that you don't need to use a 3rd or 4th generation cephalosporin to get convenience in dosing.

To many owners, on-going treatment is something they enjoy; they feel like they are doing something positive for their pet, so seeing the cat lapping up the tablets is important to them.

The fact that, to many cats, Clavaseptin is actually a treat, reinforces the positive feelings in the owner. Clavaseptin – the treat that treats!

**Clavaseptin®**

**Now you can have your cake and eat it too!**



## Growing Old

Senior citizens at a retirement village are exchanging notes about their ailments.

“My arm is so weak I can hardly hold this coffee cup.”

Yes I know, my cataracts are so bad I can hardly see to pour the coffee.”

“I can't turn my head because of the arthritis in my neck.”

“My blood pressure pills make me dizzy”

“I guess that's then price we pay for getting old.”

“Well it's not all bad. At least we

should be thankful we can still drive!”



## Quantum Physics vs The Receptor Theory

The stunning news of the discovery this month of gravitational fields finally confirms what Einstein had postulated nearly a century ago in his theory of relativity. It has also put the spotlight on the ever challenging field of quantum physics. The world of quantum physics is only a little over 100 years old. It was confusing enough to the greatest scientific minds of the 20th century; it is doubly so for us mere mortals. Quantum physics attempts to explain the very small, i.e. the behaviour of matter at the atomic and subatomic levels; it makes the science of nanotechnology look ridiculously easy.

Long held scientific doctrines were exploded as myths with the arrival of quantum mechanics and the top minds argued long and hard over the theories. The bottom line is that this field of science arose with the discovery of the photo-electric effect and the realisation that wavelength alone could not explain the behaviour of light. Light is transmitted on discrete packages called photons and both particle and wavelength phenomena have to be considered when assessing behaviour.

**my old high school science teacher would jump to his feet and cry out, "there we have it, irrefutable proof of the existence of God!"**

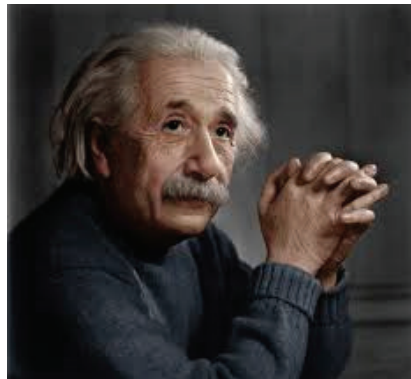
The greatest controversy arose from the realisation that quantum mechanics is non-local: that the results of measurements made at a particular location can depend on the properties of distant objects in a way that can't be explained using signals moving at the speed of light.

This troubled many and one of the greatest minds of all, Niels Bohr, postulated on how objects can in-

fluence other objects from a great distance. His theory was rather ethereal and was shot down in flames by the man considered to be the top of the scientific tree, Albert Einstein.

In their much publicized debates Einstein stated that God does not play dice with the universe and Bohr countered by admonishing him to not tell God what to do. This was hardly heady stuff for such great minds.

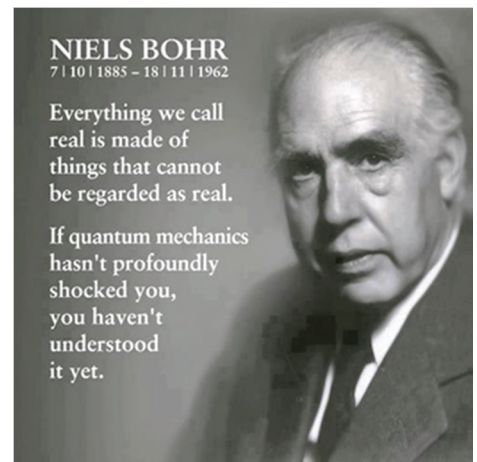
Einstein had a much more common sense and believable theory regarding predetermination. He argued that measurement outcomes must be determined in advance, by some common factor, because the alternative would require transmitting the result of one measurement to the location of the other at speeds faster than the speed of light.



The only problem was that the great man Einstein, while being correct on relativity, was wrong on this occasion and his theory is now totally refuted.

At the end of the day there is a great deal we do not understand yet in the world of quantum physics. This is the sort of situation whereby my old high school science teacher would jump to his feet and cry out, "there we have it, irrefutable proof of the existence of God!" Um, er, no – it simply means that we do not, as yet, understand it all.

What has all this got to do with the world of pharmacology? Well quantum mechanics not only exploded some theories in the field of physics but it also can cause a rethink in other areas. Most notably, and this is one from left field, the pharmacological dogma known as the receptor theory.



The receptor theory itself only originated in the early 20th century so is actually younger than quantum mechanics. (Pharmacology itself, as a science, only began in the mid-19th Century and is actually younger than our country).

The traditional drug-receptor interaction was a rigid one, a lock and key approach. Like all of science however there have been questions and ideas that don't quite fit. Competitive antagonism is easily explained if total antagonism occurs but partial antagonism raises many questions.

One explanation is that receptors are fluid and can change 3 D structure when a ligand (i.e. the drug) locks. This can lead to differing drugs having more or less affinity for the receptor. (This would explain why d-cloprostamol in Dalmazin has more than twice the effect on uterine receptors than d-l cloprostamol.)

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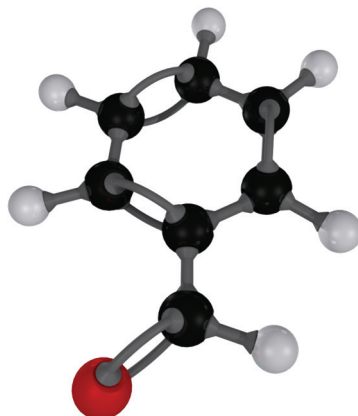
## Quantum Physics vs The Receptor Theory

*(Continued from page 6)*

All good so far but there is a whiff of doubt when we get to the sense of smell, also believed to be triggered by chemicals, acting as ligands, and receptors in our nasal membranes.

The problem is shown up by two dramatically different shaped chemicals, benzaldehyde, responsible for the smell of bitter almonds, and hydrogen cyanide having exactly the same smell; this means that they are triggering the same receptors if the receptor theory is true. How can this be?

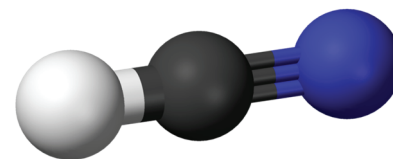
Our friends, the exponents of quantum mechanics, believe that it has to do with the resonance between the bonds in the two vastly different atoms being similar, so that our noses 'hear' as well as smell different chemicals.



**Benzaldehyde**

Just as quantum mechanics is now thought of as being made up of both particle and wave motion, the sense of smell has the two components, receptor docking and the resonance factor.

This, of course, is pharmacological heresy if applied to the drug-



**Hydrogen cyanide**

receptor interaction so, is it just a stupid idea or could there be a smidgeon of sense behind it? That certainly is food for thought.

As the great Dane himself, Niels Bohr, said, "Everything we call real is made out of things that cannot be regarded as real; if quantum mechanics has not profoundly shocked you, you haven't understood it yet."

Then again my old high school science teacher had a much simpler answer.

## A Heart Warming Story

Because of his stupidity and clumsiness, his teacher was always yelling at him, "You're driving me crazy, Tyrone!"

One day, Tyrone's Mother came to school to check on how he was doing. The teacher told his Mother honestly, that her son was simply a disaster, getting very low marks, and that she had never seen such a stupid boy in her entire teaching career.

The Mother was so shocked at the feedback that she withdrew her son from school and moved out of London, and relocated to Birmingham.

Twenty-five years later, the teacher was diagnosed with an almost incurable cardiac disease. All the doctors strongly advised her to

have open heart surgery, but there was only one surgeon in Britain who could perform the operation and he was located at the Birmingham Clinic. Left with no other options, the teacher decided to have the operation, which was successful.

When she came round after surgery she saw a handsome young doctor smiling down at her. She wanted to thank him, but could not talk. Her face started to turn blue, she raised her hand, trying to tell him something but quickly died.

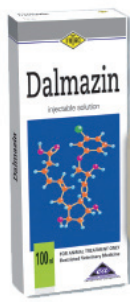
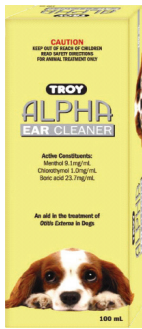
The doctor was shocked, wondering what could have possibly gone wrong so suddenly.

Then he turned around and saw our friend Tyrone, a janitor in the Clinic, who had unplugged the life-

support equipment in order to connect his vacuum cleaner.

If you thought for one moment that Tyrone had become a heart-surgeon there is a high likelihood that you voted to retain the old flag.





## I Wish I'd Done That

This delightful little piece appeared in the Sideswipe column in the NZ Herald a few weeks ago:

“A man named Chris Harrigan got heads scratching after sharing a story online which everyone hoped was true but probably wasn't, or you'd expect to have seen photos by now.

Mr Harrigan said a friend of his was waiting for a train at Frankston when she noticed a man on the platform with some fish and chips. He wasn't eating them, just letting them cool.

"This attracted a few seagulls, who began to circle the platform. Instead of shooing the birds away, the man offered them a few chips. He'd toss one a foot or so away from him. It was like he was beckoning them to come closer.

He kept doing this, eking the chips out slowly, until there was a big group of seagulls in front of him, 15 or 20. A tiny army.

He'd throw them a chip every now and then - just enough to keep the birds interested, but not enough to sate them. It was frustrating.

They were getting angry. Squawking. It was like he was rearing them up for ... something.

Then the train came, and everyone got on. But the man stayed on the ground with his chips.

Just when the train was about to leave, it happened.

Right before the doors closed, the man threw the entire bag of the fish and chips into the train.

The entire flock of seagulls followed the bag. And the doors

closed. Inside the train: pandemonium. The next train stop was five minutes away!”



**Parenteral nutrition for liver insufficiency - Metabolase**