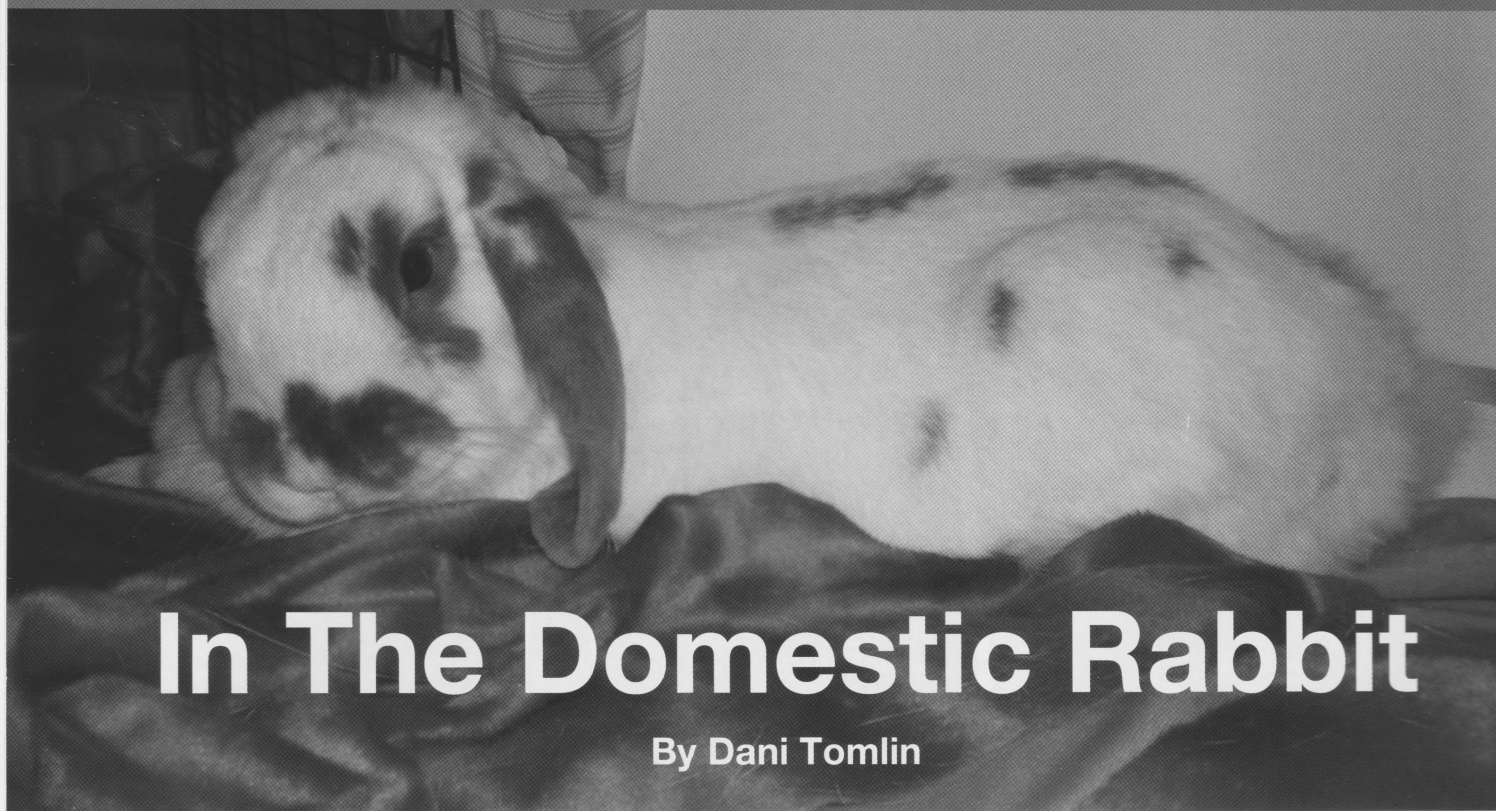


# MEGACOLON



## In The Domestic Rabbit

By Dani Tomlin

**Through her own experience with Megacolon, Dani Tomlin helps us to understand this very serious condition and how we can tackle it.**

**D**o you have a rabbit who has always produced larger than normal, oval shaped fecals, rather than the classic round rabbit poops? And long thick, tarry, widely segmented sausage-like cecotrophs with a strong odour? Is the rabbit mainly white, with a few darker spots on its coat, a broken colour line down its spine, dark eye markings, a broken butterfly on it's nose? The rabbit may even have more or fewer markings even than these. You may have noticed that these rabbit's fecals have been like this since birth or you may not have even noticed these unusual poops until the rabbit started getting sick with gut hypo motility or failed to thrive as it should as a kit. If so, you may well have a Megacolon rabbit.

### What causes genetic Megacolon?

In 2010 a group of scientists, from the University of Bologna, Italy, were looking for the gene that causes colour spotting in rabbits. Four years later they released a paper that pointed at the KIT (English spotting gene) as the cause. This gene is directly tied to the

reduced number of colour spots and a reduction in nerves supplied to parts of the GI tract, causing Megacolon. In the womb, there is a significantly reduced supply of nerves from the neural crest to parts of the GI tract and the skin and fur. As a result of this, a rabbit may inherit two of the dominant English spotting genes (En/En) and will have very limited colour spotting along with a reduced number of pacemaker nerve cells, in both the cecum and ascending colon. Any breed of rabbit can be affected and there is no cure.

### However, all is not lost

If you realise early on that your rabbit has this congenital condition then that's half the battle won. You will need an open minded vet willing to prescribe anti-inflammatory pain relief

(Metacam) rather than opioids and gut motility drugs called prokinetics, like Zantac syrup, which initially works better on younger rabbits.

At a later stage or if the rabbit does not respond to Zantac, then a drug called Cisapride is the most helpful prokinetic for this condition. Cisapride works by moving the colon and increasing gut motility. It is often given as a treatment for GI stasis in any bunny, but for Megacolon rabbits the combination of Cisapride and Metacam can literally keep them alive but they will need to stay on these drugs permanently.

Some Megacolon rabbits who are severely affected often need an additional prokinetic drug like Metoclopramide or Domperidone to work on increasing appetite and emptying the contents of the stomach into the intestine. Sadly, owners can take an entrenched position saying they don't like giving medications unnecessarily. Who would? But Megacolon is a condition where long term drug use is essential to ensure a good quality of life for the rabbit and to



Pic: typical markings of a Megacolon rabbit

prevent the condition and the damage it causes to the gut function, worsening from repeated episodes of anorexia, hypomotility and true gut stasis. While Megacolon is not a terminal disease, it is a progressive one, so your rabbit's drug doses may also need to increase over time to compensate.

### How do i know this?

I've had two Megacolon rabbits. Both lived to be over six years old (fairly large breed 3-4 kgs) and neither of them died of their Megacolon. It can be done, your bunny can have a good life and not die from this. You will need to learn a lot, be proactive and work closely with a communicative, forward-thinking vet where you can learn together. In fact, more and more is now being discovered about Megacolon in rabbits and since 2013, when I began a group on Facebook for this specific condition. It has been my aim to share and spread this increased knowledge and treatment options far and wide, but especially to empower owners and help them to know what to ask of their vets and why.

## Mysteries do still exist as to it's peculiarities in rabbits.

It is my belief that Megacolon is under-diagnosed in rabbits. I believe many spotted rabbits simply have died of simple GI stasis in the past and inexplicably the majority of vets have been reluctant to even accept that Megacolon exists in rabbits, let alone try to work out how to treat it.

Insufficient numbers of necropsies are done on rabbits and often Megacolon rabbits will die very young and it is put down to complications of weaning enteritis, or Coccidia or stasis.

But there was a major breakthrough for Megacolon rabbits in 2014 when the University of Bologna finally published their scientific study on the condition. Despite this, it can still be a struggle for owners and there are



Above: An extreme case of Megacolon but shows the size and shapes the droppings can be.

Right: sausage-like or tarry cecotrophs with a strong odour



still many vets out there resisting the proven fact that Megacolon exists in rabbits as it does in other animals and humans.

Mysteries do still exist as to it's peculiarities in rabbits. There appears to be a hormonal element to it, with apparently fewer females than males being affected. This is debatable because it may be that females die younger before any chance of diagnosis, making it appear as if more males have the condition. It could well be that males are simply surviving longer, long enough to get diagnosed.

At present males appear to do better and live longer with Megacolon. It is vital to do a full differential diagnosis on any rabbit suspected of being congenitally Megacolon, as other conditions can mimic it, in particular 'acquired Megacolon' which can be caused by trauma or surgery or even Encephalitozoon Cuniculi, causing partial paralysis.

### Caring for your rabbit

There is much to learn on how to best manage your Megacolon rabbit at home, in conjunction with medication from your vet. An increased dose of vitamin C can help gut motility as does feeding dried plantain and always ensuring good hydration.

Many of them can eat a much larger amount of fresh food than other rabbits without accompanying issues

(sloppy poop) because making the ingesta softer, makes their large fecals easier to pass. But one thing I can say categorically about this condition is that every Megacolon rabbits is slightly different and it's about suiting the right amount and type of food and medication to each bunny.

I do however, believe that these rabbits need a limited amount of good quality alfalfa based pellet to thrive and should not be fed on a hay and vegetable only diet. This is because the condition seems to cause poor uptake of nutrients. As with the medication, dietary needs may change over time and changes should be made gradually. Trying always to be flexible and open to new ideas for the changing needs of your rabbit's guts.

### My Megacolon rabbits

Certainly, neither of my rabbits wasted away with it. The worst affected with Megacolon, ultimately grew into a large dwarf lop at 4kgs, once we worked out what suited him medically and nutritionally. His son who lived to be just a little older than his father at six years and three months, was a smaller build but always remained at a stable weight of 3kgs. Both were well

muscled, active, strong rabbits without pot-bellies.

### Parasites and infections

More often than not, loss of condition in these rabbits is because they are also highly prone to gut bacterial infections like E.Coli, brought on by slow and irregular gut motility which causes excessive drying out and impaction of the gut. Commonly found parasites like Eimeria can cause intestinal Coccidia and can cause pain, diarrhoea and early death in the Megacolon rabbit.

Inappropriate and ineffective treatment of Coccidia in Megacolon rabbits with antibiotics like Trimethoprim, rather than wormers such as Toltrazuril, Baycox 5%, is often a cause of their death, while the underlying gut pathology of Megacolon as the primary cause is overlooked. In a non Megacolon rabbit certain antibiotics may assist it's own immune system to kill off the Coccidia. But this rarely, if ever, works with a Megacolon rabbit whose immune system is already challenged.

From a wider perspective, in an age of bacterial resistance, no vet should be prescribing weeks or months of an antibiotic where a simple wormer will do the job more effectively and quickly. Subjecting the rabbit to far less physical stress, while eliminating the risk of gut flora imbalance.

### A treatment plan

To an experienced eye, a genetic Megacolon rabbit is pretty easy to spot (pardon the pun). A look at their coat colouration, a sample of their fecals and cecals both of which are abnormal in appearance, a few questions about their history and some very straightforward, non-invasive fecal testing done via a lab, should be enough.

The initial treatment protocol for a Megacolon rabbits whose gut has slowed down or stopped working, who is inappetent and/or not pooping is always the same. "Fluids, fluids, fluids and pain relief", as a specialist exotics vet once said to me. The key to treating this is to get on top of it early. Spot the subtle and not so subtle signs of pain and an overly dry gut, then give slowly via syringe, simple oral fluids (green coconut water, can

be very useful) and subcutaneous fluids. Ask your vet to show you how to do this at home, because it can be a lifesaver. Together with a good dose of Metacam with a starting dose of 0.5 mg/kg. Then ONLY take your bunny to a rabbit savvy vet to gently palpate them to establish if the gut is soft enough to use motility drugs safely.

The 'seeing hands' of a good rabbit vet will tell you much more than an x-ray for a Megacolon rabbits.

The removal of pain, which on its own can stop a rabbit's gut from working optimally, and the prompt re-hydration of these rabbits are both essential for recovery. Avoid the use of opioids as they can slow the gut further. Once the gut is soft enough, which in some cases can mean giving a rabbit IV fluids for a couple of days in clinic, then use a prokinetic like Cisapride to get things moving again. Do not be tempted to feed with syringe food especially if they are refusing the syringe, as you will be compounding the problem. Imagine being forced to eat if you were terribly constipated and in gut agony. By all means offer them soft meadow hay and lots of fresh herbs to select in their own time. I sometimes use a warm mixture of New Zealand Manuka honey and water as an oral solution which gives energy and helps

balance electrolytes. The bunnies find it very palatable and are normally keen to drink it. Unlike most sugars, it appears to not adversely affect the flora of the gut.

After a Megacolon rabbit has had even a single case of stasis, or a couple of smaller gut slow downs, then it is probably time for them to go onto prokinetics and Metacam on a permanent daily basis to prevent reoccurrence of what can be a deadly condition if left untreated. Age and each bout of stasis weakens the gut further. Contrary to what many people believe an x-ray will often not show you a tumour as opposed to a blockage caused simply by impacted food. Bloodwork is not useful and gut surgery has a dismal prognosis.

To sum up, if you have a genetic Megacolon bunny, the key is to rehydrate and soften the stomach and intestinal contents, support the rabbit's vital organs, free the rabbit of pain and then get the gut working again with prokinetics. It's simple, but vital.

Prevention is the only, and best cure for Megacolon. Your quick actions, knowledge and close observation of your own rabbit are your best weapon for defeating it.



Pic: Horatio, a Megacolon rabbit

### For more information:

Email [mossbinky@yahoo.com](mailto:mossbinky@yahoo.com) - for triage/application to the Megacolon Bunnies owners group on Facebook.

[www.vgr1.com/megacolon/](http://www.vgr1.com/megacolon/) - a reference page for Megacolon with multiple links and references for vets and owners a like.

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0093750> - scientific study  
[www.meditrabbit.com/EN/GI\\_diseases/Differential/mega\\_differential.htm](http://www.meditrabbit.com/EN/GI_diseases/Differential/mega_differential.htm) - good reference

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