MSD Animal Health

Numelvi®

Delivering simple relief through clinically led JAK selection

When faced with the increasing choice of JAK inhibitors, how do you keep your decision truly clinical? MSD Animal Health UK have partnered with Dr Sue Paterson to simplify the key selection considerations – helping you choose with confidence and find simple relief every time.

"The choice of JAK inhibitors has never been greater, but in selecting the correct first-line option, vets should carefully consult data sheets as there are meaningful differences between the three options in terms of selectivity and licensed indications/contraindications"

Dr Sue Paterson
MA VetMB DVD
DipECVD FRCVS

Choice and Confusion of JAK Inhibitors

Pruritic skin disease constitutes a significant canine welfare problem and rapid control of itch is important in all cases. Whilst the author would suggest symptomatic control of itch is entirely appropriate for short-term relief, it should never replace the basic investigation of the cause of the pruritus.

When owner resources are limited

either temporally or financially, a contextualised approach can be used to rule out other differentials. Where clinical signs are suggestive of a potential ectoparasite problem, either due to the animal's history or the presenting signs, the author would suggest empirical therapy with a broad spectrum ectoparasiticide such as an isoxazoline. Infection with either *Staphylococcus spp.* or *Malassezia* commonly exacerbates allergic itch, so the use of topical antiseptic therapy, based on cytology or clinical signs, with products such as those containing chlorhexidine can be usefully employed as a therapeutic trial. The institution of a food trial can be more challenging in a low-cost setting but deploying an accelerated trial using a short two-week course of prednisolone, according to the protocol described by Favrot (2019)[1], can help establish if pruritus is food induced.

After making a diagnosis of allergic skin disease, what is very clear is that veterinary surgeons have never had so much choice when it comes to therapeutic interventions in our allergic canine patients. However, with choice comes confusion, and with three licensed JAK inhibitors (JAKi) on the market it can be difficult to decide which is the most appropriate drug to use for each individual case.

In all cases, therapy should be used to treat a condition, i.e. allergic dermatitis, rather than a symptom. All manufacturers suggest a vet's clinical judgement is key in deciding on the best therapy for a patient.

The selectivity of the three JAKis is different. All three inhibit the JAK1 enzyme activity, leading to a reduction of itch and inflammation. Atinvicitinib is usually described as a second-generation JAKi because of its high selectivity for JAK1 compared to JAK2, JAK3 and tyrosine kinase (TYK)2. This selectivity means that atinvicitinib has little to no effect on cytokines involved in haematopoiesis or host defence.[2] Ilunocitinib is non-selective with a wider range of effects on the other JAK-family members involved in haematopoiesis or host defence that are dependent on JAK2 or the other JAK family members.[3] Monitoring of complete blood counts and serum biochemistry is recommended with both oclacitinib and ilunocitinib, but not so with atinvicitinib.[2–4]

In a young, otherwise healthy allergic twelve-month-old dog with no previous or ongoing history of comorbidities, the author would suggest there is little clinically conclusive reason to choose between the three drugs, all have shown a high degree of efficacy in controlling allergic itch and inflammation.

Cost of therapy must often be a consideration, as these are drugs for life. The difference in cost between the three products is usually small, based of course on your practices' buying power, but the fact that the label indication for both ilunocitinib and oclacitinib suggests that periodic monitoring of dogs with complete blood counts and serum biochemistry is undertaken in dogs on long-term treatment may influence treatment choice.[3,4] Long-term data for oclacitinib suggest haematological side effects are very rare,[4] but certainly in the early stages of therapy or where dogs develop other conditions, the author would encourage monitoring to ensure the dog is tolerating the medication.

The frequency with which a drug is given can affect owner compliance and whilst all JAK inhibitors are given once daily for long-term maintenance, ilunocitinib and atinvicitinib are given once daily from the start which may influence clinician and owners' choice.[2,3]

Drug selection needs to be more considered where the dog is younger than twelve months old, where only atinvicitinib is licensed for use in dogs from six months.[2]

JAK inhibitors should be prescribed with care where an animal is immune-suppressed or has progressive neoplasia, where a clinician should weigh up the benefits of a medication versus the risks in these patients.

Where an animal has pyoderma or yeast infection secondary to their allergy, only atinvicitinib has no label warning of increased susceptibility to infection[2], so would be the author's choice in these more complex allergic individuals.

When an animal presents for routine vaccinations, the clinician should consult the most recent data sheet recommendations for each JAKi, as there are differences in the outcomes of the respective studies investigating concurrent vaccination.

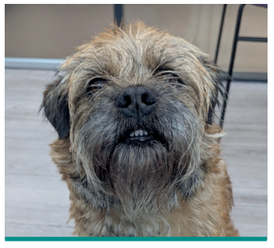
Clinically, it may be that a dog responds to one JAKi but not another, so where adequate control is not achieved and a second-line drug is deemed appropriate based on the dog's age, disease presentation and comorbidities, it is always worth switching between the three to try to achieve control of itch and inflammation.

In conclusion, the choice of JAKis has never been greater, but in selecting the correct first-line option, vets should carefully consult data sheets as there are meaningful differences between the three options in terms of selectivity and licensed indications/contraindications.

This article is written based on the author's interpretation of the product's SPCs. For full details of each product, please review each SPC on the NOAH website.

Make Numelvi® your first-choice JAKi for simple and selective relief, with outcomes that speak for themselves

These are selected case vignettes illustrating individual clinical experience. They are not representative of all cases.



Meet Freddie

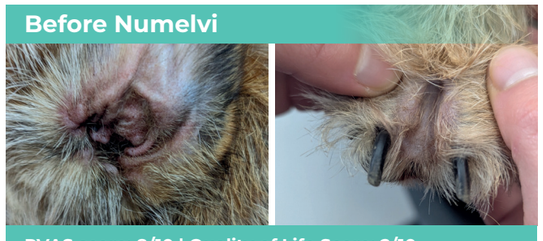
Part of the Numelvi Itch Free Pack

3-year-old Border Terrier Freddie experienced severe *Malassezia* hypersensitivity, causing recurrent ear infections, ear scratching, head shaking, and paw licking/chewing with paw staining.

Freddie was up to date with Bravecto® treatment.

Dr Debbie Gow
BVM&S PhD Dip.ECVD FHEA MBA FRCVS
RCVS-recognised and EBVS® Specialist in Veterinary Dermatology

Before Numelvi



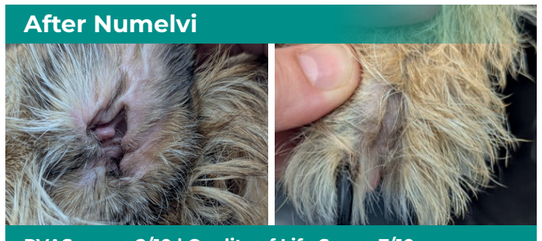
PVAS score: 8/10 | Quality of Life Score: 2/10

Food trials over 6 months ruled out food allergy. Atopic dermatitis secondary to *Malassezia* hypersensitivity was subsequently confirmed through cytology and an intradermal test.

Steroids and topical treatment provided effective acute control, but maintenance of relief proved challenging:

- Partial and inconsistent relief was achieved with one previous JAK inhibitor
- Freddie's owner felt stable relief was provided by another JAK inhibitor, but bloodwork revealed a severe liver enzyme spike (ALT 42 to 525 U/L) and so treatment was stopped

After Numelvi



PVAS score: 2/10 | Quality of Life Score: 7/10

Transitioning to Numelvi provided significant itch relief and maintained control, without any other wider effects.

Freddie showed reduced paw licking, decreased skin redness, more comfortable ears, and less generalised pruritus.

Freddie has been on Numelvi for 2 months now. Treatment is ongoing alongside Canesten®/Cortavance®, Dermanolon® spray, allergen specific immunotherapy (ASIT), and CLX Wipes®.

Meet Bert

Part of the Numelvi Itch Free Pack

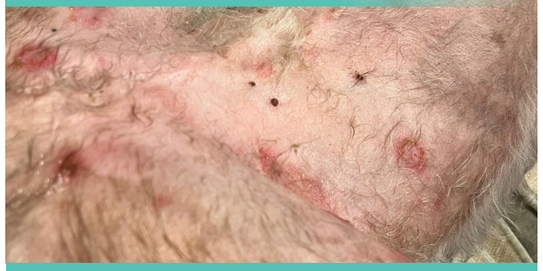
8-year-old Bedlington Terrier Bert was diagnosed with atopic dermatitis as a young dog.

Bert benefited from a comprehensive veterinary assessment, as additional factors were contributing to his pruritus.

Bert was up to date with Bravecto treatment.

Palmer and Duncan Veterinary Surgeons
Ossett, West Yorkshire

Before Numelvi



PVAS score: 6/10 | Quality of Life Score: 6/10

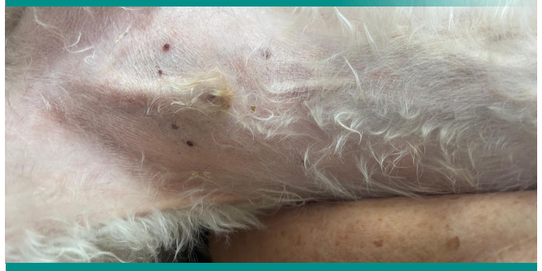
Alongside pruritus, Bert was also battling recurrent purulent otitis externa, *Pseudomonas* cultured from ear swabs and concurrent recurrent pancreatitis.

Bert was previously treated with Cephalexin® antibiotics and Surolan® ear drops.

Prior to 2019, Bert received another JAK inhibitor, followed by monthly monoclonal antibody injections from 2020, in addition to multiple courses of antibiotics.

The many years of unsatisfactory treatments had left Bert's owner feeling exhausted and demoralised.

After Numelvi



PVAS score: 0/10 | Quality of Life Score: 8/10

Within one month of Numelvi treatment, Bert's pruritus and epidermal collarettes resolved in addition to a vast improvement in his abdominal pain and borborygmi.

Bert was also already receiving treatment for *Pseudomonas* ear infection when switched to Numelvi. This has now resolved.

"We can't believe the difference in Bertie since starting Numelvi. After years of ear infections and skin lesions and a pretty sad dog sometimes, this has changed all our lives! He is now a brighter and happier dog... No skin/ear problems or gut issues since starting"
– Bert's owner

Meet Bella

Part of the Numelvi Itch Free Pack

2-year-old Cavapoo Bella suffered with severe otic and pedal pruritus for around a year.

Dr Filippo De Bellis
DVM CertVD DipECVD MRCVS
RCVS-recognised Specialist in Veterinary Dermatology

Before Numelvi

Despite trials with an elimination diet, another JAK inhibitor, and monoclonal antibody injections, Bella's clinical signs persisted. The medical therapies were ultimately discontinued due to tolerability issues.

PVAS score: 8/10

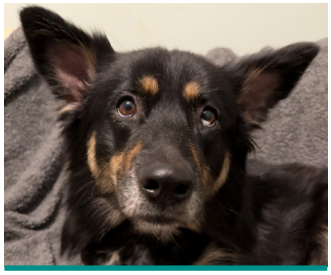
After Numelvi

Transitioning to Numelvi provided a noticeable decrease in her pruritus and erythema. With her PVAS score significantly reduced, Bella was able to get back to normal and return to a livelier demeanour.

PVAS score: 4–5/10

"I have seen Bella again, she is virtually free of lesions and we have a very happy dog and owner!"
– Dr Filippo De Bellis

Turn over to read Hati's case study



Meet Hati

Part of the Numelvi Itch Free Pack

2-year-old German Shepherd Cross Breed
Hati started itching at 6 months old, leading to lichenification, alopecia and pyoderma.

Hati was up to date with Bravecto treatment.

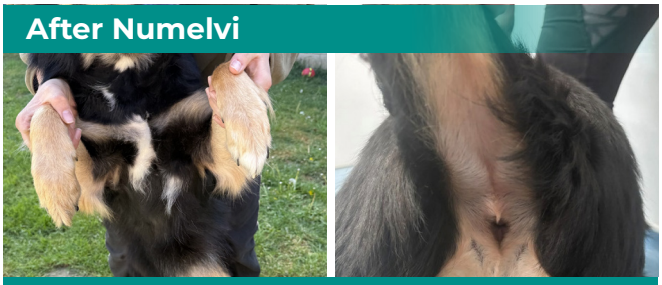
South Lincs Vet Group
Boston, Lincolnshire

Before Numelvi

PVAS score: 8/10 | Quality of Life Score: 7/10

Over 18 months, Hati's owners tried different JAK inhibitors, monoclonal antibody therapy, antihistamine treatment, diet trials, steroid treatment, and topical treatments, with no lasting success.

After Numelvi



PVAS score: 2/10 | Quality of Life Score: 10/10

After just 2 weeks on Numelvi, alongside a continued hydrolysed diet and Douxo® S3 Pyo shampoo, Hati has no signs of itching, her hair has grown back and her skin is healing well.

"We can't believe how well her skin has been since being on it. We are on week 2 of the new tablets and we have no signs of itching and the hair is growing back nicely, no side effects. She looks a lot happier now the skin is healed"

– Hati's owner

Use Numelvi first-line confidently with these clinical benefits:

Selective

- At least 10X more selective for JAK1*[2], providing a favourable safety profile[2] and owner peace of mind
- The only JAK inhibitor licensed for dogs as young as 6 months of age[2]
- No recommendations for periodic blood or urine testing[2]

Effective

- Starts relieving itch within 2–4 hours**, providing dogs and owners relief quickly
- Once-daily dosing from day 1[2] (at or around the time of feeding) keeping it simple, reducing up-front costs and eliminating rebound itch

Not yet used Numelvi?

Buy 6 get 4 FREE –

contact digitalteam@msd.com to access this limited new user offer

Visit the Numelvi website

*Over the JAK enzymes in *in vitro* assays.
**Based on a canine interleukin-31-induced pruritus model.
Dog's quality of life score is based on the dog owner's opinion, ranging from 1 = very poor and 10 = living his best life.
Numelvi® tablets for dogs contain atinvicitinib. **POM-V**. Bravecto® contains fluralaner. **POM-V**. Further information is available from the SPC, datasheet or package leaflet. Advice should be sought from the medicine prescriber. Prescription decisions are for the person issuing the prescription alone.
Use Medicines Responsibly.
MSD Animal Health obtained non-exclusive rights to use these materials under a signed agreement. These are selected case vignettes illustrating individual clinical experience. They are not representative of all cases. These selected case vignettes are illustrative only and do not replace evidence from controlled clinical trials. Improvements were observed following initiation of NUMELVI in these cases; controlled trials are required to establish a causal relationship. Images have been used as provided by the veterinary dermatologist and may have been cropped for clinical focus, however no enhancements have been performed that alter the clinical appearance.

References:
1. Favrot C, *et al.* The usefulness of short-course prednisolone during the initial phase of an elimination diet trial in dogs with food induced atopic dermatitis. *Vet Dermatol.* 2019;30(6):498–e149. **2.** Numelvi® Summary of Product Characteristics. **3.** Zenrelia® Summary of Product Characteristics. **4.** Apoquel® Summary of Product Characteristics.

MSD Animal Health

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