

PATIENT:

One of a Kind Jones

202020172



nextmune



ALLERGY TESTING
RESULTS BOOKLET

ALLERGY REPORT



Lab Number 20180172
OrderDate 5/27/2018
Patient One of a Kind Jones
Sex M **Age** 7 Yrs
Owner Jones
Breed Paint

Dr. Doctor
 ABC Veterinary Clinic
 123 N Main St
 Anywhere, USA 12345
 (303) 555-1212

☐ N - Negative (0-99)
☒ P - Positive (100+)

TOTAL REACTING ALLERGENS 20
 (Excluding Foods, Staph & Indoor)

Region: CA California

Grasses				Fungi				Foods			
Bluegrass/June Grass	88		N	Smut Mix*	92		N	Molasses	80		N
Orchard	84		N	Curvularia	84		N	Milo	72		N
Fescue	124		P	Cladosporium	88		N	Oats	54		N
Bermuda	85		N	Helminthosporium	122		P	Pasture (mix)*	85		N
Redtop	113		P	Stemphylium	139		P	Soybean	74		N
Brome	89		N	Candida Albicans	82		N	Wheat	110		P
Ryegrass	127		P	Monilia	82		N	Rice Bran	87		N
Johnson Grass	137		P	Cephalosporium	0		N	Beet Pulp	97		N
Weeds				Mucor Mix				Indoor			
Ragweed	138		P	Trichoderma	118		P	Pine Shavings	89		N
Pigweed/Careless Weed	64		N	Rhizopus	92		N	Redwood Shavings	91		N
Lamb's Quarters	179		P	Chaetomium	98		N	Cedar Shavings	133		P
Cocklebur	77		N	Phoma	108		P	Sisal	88		N
Marsh Elder	125		P	Rhodotorula	92		N	Wool	85		N
English Plantain	71		N	Botrytis	93		N	Cotton	88		N
Dock/Sheep Sorrel	148		P	Epicoecum	88		N	Insects			
Sage	75		N	Fusarium	0		N	Cockroach	79		N
Saltbush/Scale mix	74		N	Pullularia	88		N	Culicoides	111		P
Russian Thistle	70		N	Aspergillus	82		N	Mosquito	78		N
Kochia/Firebush	71		N	Nigrospora	84		N	Stable Fly	128		P
Trees				Alternaria	86		N	Deer Fly	149		P
Cottonwood/Aspen	70		N	Penicillium	126		P	Horse Fly	84		N
Alder	157		P	Saccharomyces	78		N	Fire Ant	81		N
Ash	69		N	Cephalothecium	84		N	Grains			
Juniper/Cedar	69		N	Epidermals				Corn Pollen	71		N
Box Elder/Maple	141		P	Mouse Epidermal	91		N	Oat Pollen	78		N
Oak	70		N	Leather	91		N	Wheat Pollen	90		N
Eucalyptus Tree	76		N	House Dust				Barley Pollen	109		P
Mulberry	73		N	Barn Dust	92		N	Foods			
Walnut	72		N	Foods				Alfalfa	75		N
Arizona Cypress	71		N	Barley	86		N	Corn	114		P
Sycamore	122		P	Cottonseed	78		N				
Olive	74		N								

(*) Pasture (mix)=Bermuda, Rye, Timothy Smut Mix=Bermuda Grass Smut, Johnson Grass Smut

Please note: Allergens reflecting ARUs (allergen reacting units) of 100 or higher may be considered significant provided they correspond with clinical signs; however, the magnitude of signal (units reported) does NOT necessarily correlate with the severity of disease. Limiting exposure to these allergens, where possible, is highly recommended.

Why allergy treatment?

IMPROVEMENT
RATES AS HIGH AS

90%

Allergy testing without proceeding to allergy therapy does little to improve your horse's quality of life. Allergy therapy is the **ONLY** way to increase tolerance and address the root cause of their symptoms without harsh side effects. This is accomplished by introducing their immune system to small, controlled doses of the allergens to which they've reacted.

Treatment is available in allergy drops (lasting 100 days) or allergy injections (lasting 283

days). Regardless of which method you choose, treatment sets are formulated specifically for your horse based on their allergy test results.

With compliance from both the horse owner and the veterinarian, Nextmune US has seen improvement rates as high as 90%* – this means less reactions!

Discuss the details of your horse's treatment with your veterinarian today!

Questions? Visit us at Nextmune.US

*According to a veterinary survey





Dietary Results

Your horse tested positive for the following allergens:

Corn	Wheat
------	-------



Start Here.

Before adjusting your horse's diet, review these results and develop an updated dietary plan ***alongside your veterinarian***

and take into account your horse's...

AGE



WORKLOAD



**STAGE OF
DEVELOPMENT**

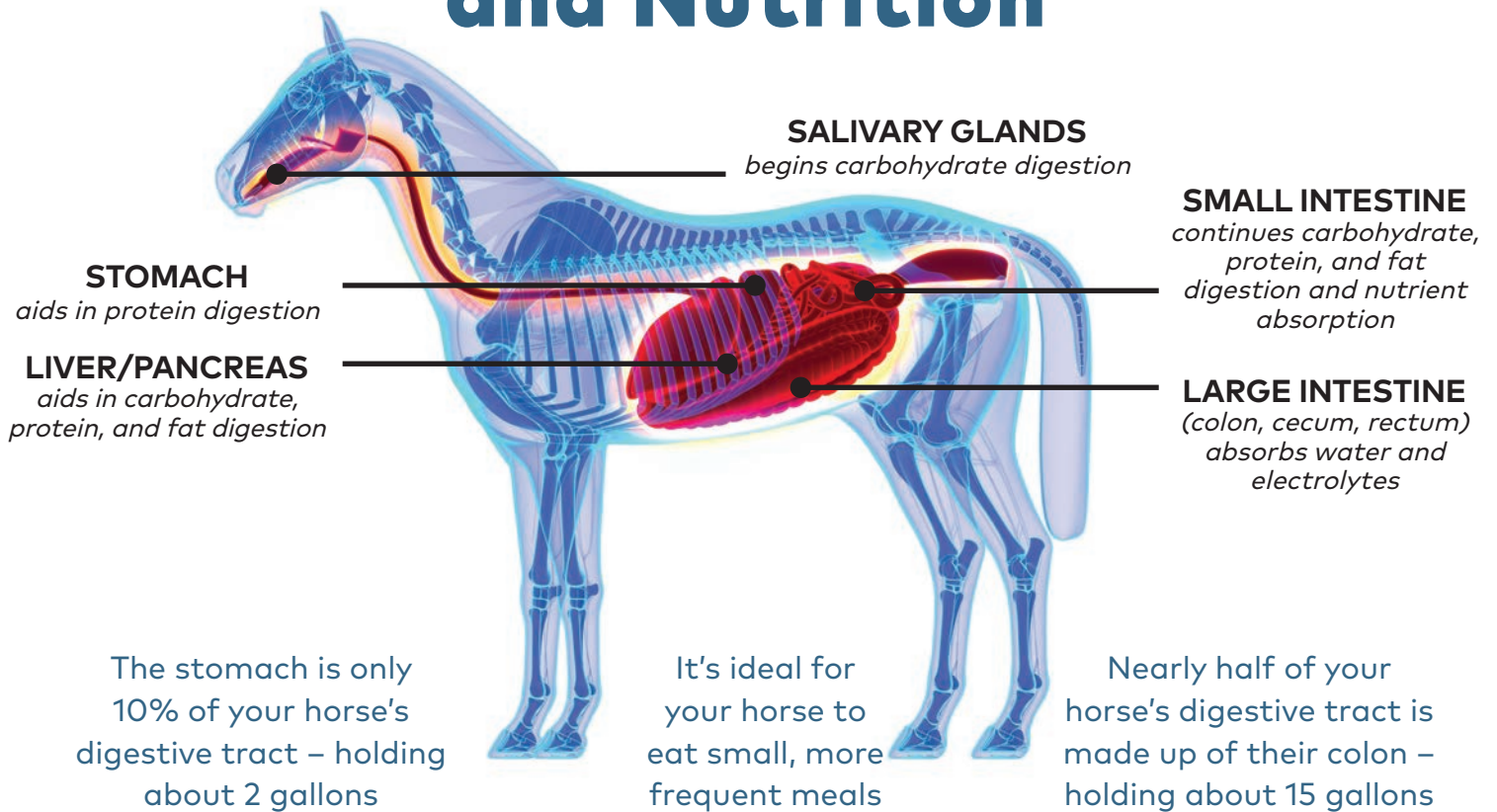


METABOLISM


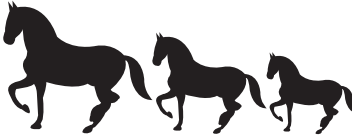
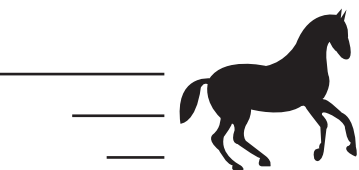
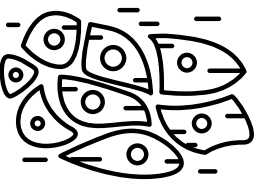
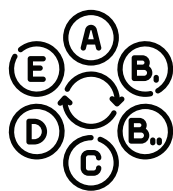
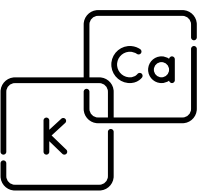


Lab Number - 202020172 - One of a Kind Jones

Your Horse's Digestion and Nutrition



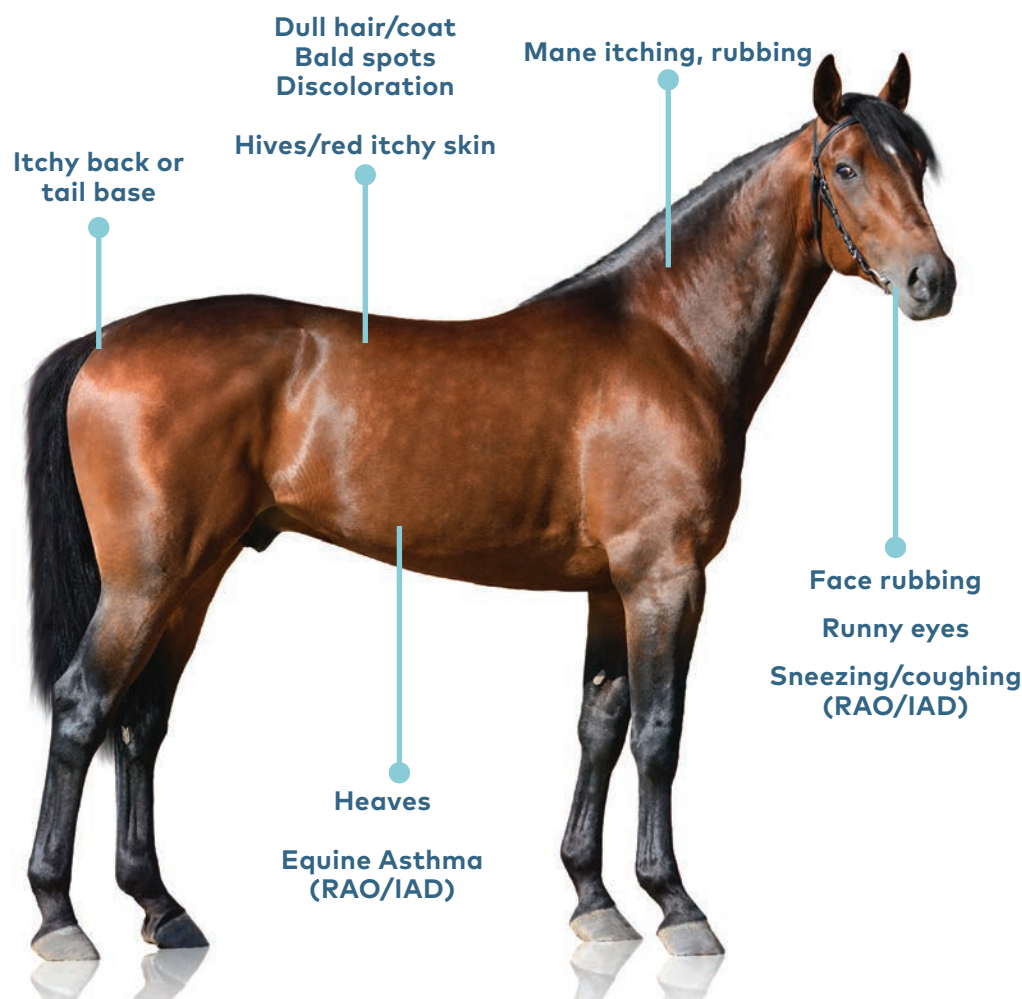
6 CLASSES OF NUTRIENTS

		
<p>WATER 70-75% of their body is made of water – generally drink 5-15 gallons daily</p>	<p>PROTEIN makes up their muscle, connective tissue, enzymes, hormones, and other substances</p>	<p>CARBOHYDRATES energy source for your horse</p>
		
<p>FATS essential to cell membrane health – alternative to simple carbohydrates as an energy source</p>	<p>VITAMINS used for metabolic functions and protects against disease</p>	<p>MINERALS inorganic elements necessary for their bodily functions</p>

Taking Control of your Horse's Allergies

Allergy symptoms can initially be managed with a combination of antihistamines, diet changes, fatty acids, shampoos, and even relief medications. Positive effects can be seen with these therapies; however, the benefits are usually limited and temporary. To date, **hypo-sensitization is the safest, most effective treatment for long-term allergy management.**

Common Allergy Symptoms



Nextmune is committed to empowering horse owners with real allergy solutions. By consistently utilizing this 3-step approach, we've found lasting relief possible for your horse.*

1. **Consistently treating all possible reactions**
2. **Modifying the diet based on your horse's results**
3. **Maintaining treatment long-term; even after symptoms subside**

Hypo-sensitization for allergy management



ALLERGY INJECTIONS







- Every other day initially & eventually once per month
- Treat up to 20 allergens per set
- Initial set lasts 283 days
- Most economical option
- Observe horse for 45 minutes after each dose



ALLERGY DROPS

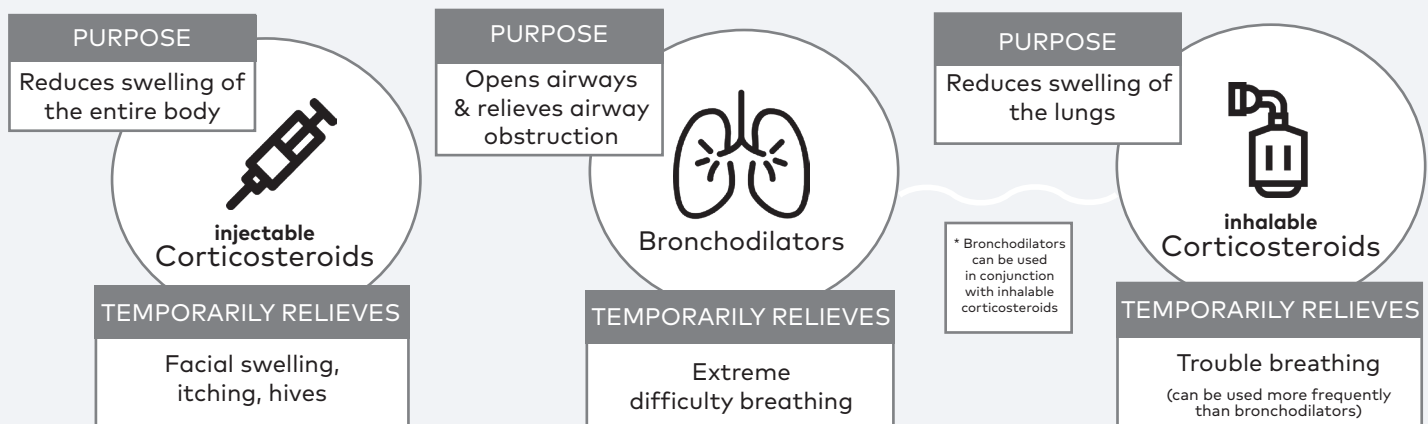
- Once a day oral administration
(3 pumps - No food/drink 10 minutes before/after)
- Treat up to 20 allergens per set
- Initial set lasts 100 days
- Observe horse for 45 minutes after each dose

TREATMENT COMPARISON

<i>Treatment</i> 	<i>Effectiveness</i> 	<i>Side Effects</i> 	<i>Cost</i> 	<i>Benefits</i> 	<i>Downsides</i> 
Clenbuterol	Up to 75% of cases experienced clinical improvement ¹	May cause mild sweating, muscle tension, urination, & tachycardia	About \$10 /day ²	Oral treatment, easy to administer, longer lasting than aerosoled medications	Not effective for all horses, check withdrawal times before competition, potentially extensive treatment schedule
NextmuneUS Testing & Treatment	Very effective in about 85-90% of cases ³	Low instance in increased allergy symptoms (depending on season)	About \$1/day (injection), about \$2/day (oral)	Efficacy, addresses root cause of allergy symptoms, safe for long term use	Can take 4-6 months before benefits of therapy are seen

1. ncbi.nlm.nih.gov/pubmed/8575403 2. Based on 1,000 lb horse at 5mls, 2 times daily for the recommended 30 days. (sources: product label & vet depot website) 3. Internal veterinary survey

OTHER SHORT-TERM OPTIONS



Questions? Visit us at [Nextmune.US](https://www.nextmune.us)

Equine Asthma

Inflammatory Airway Disease (IAD) Recurrent airway obstruction (RAO)

Equine Asthma, a term that encompasses various syndromes including Inflammatory airway disease (IAD) and Recurrent airway obstruction (RAO).

INFLAMMATORY AIRWAY DISEASE (IAD)

- Characterized as exercise intolerance and intermittent cough in horses that are normal at rest
- Inflammatory condition of the lower respiratory tract
- Appear to be primarily noninfectious
- Occurs in 22%–50% of athletic horses
- Is a common cause of impaired performance and interruption of training

RECURRENT AIRWAY OBSTRUCTION (RAO)

- Characterized as heaves, broken wind, and chronic airway reactivity
- Is a common respiratory disease
- Unlike IAD, horses with RAO don't breathe normally at rest
- Usually suffer from a persistent cough
- Airway obstruction episodes occur when a susceptible horse is exposed to common allergens

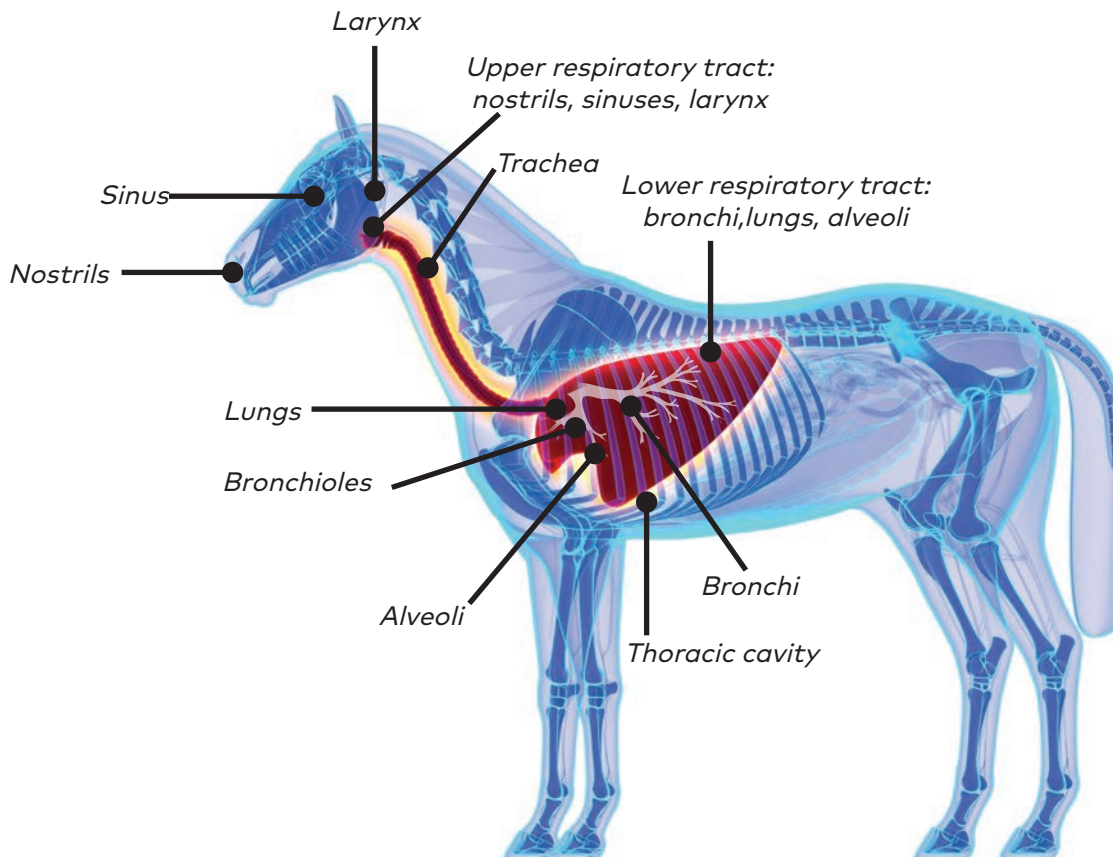


Figure 1 (equine respiratory system)

COMMON MOLD & BARN ALLERGENS

CLADOSPORIUM

Grows on plants, leather, rubber, cloth, paper, & wood

ASPERGILLUS

Found in soil, damp hay, grain, & fruit

PENICILLIUM

Grows in soil, decaying vegetation, breads, fruit, & cheese **Not to be confused with an allergy to the medication Penicillin*

ALTERNARIA

Grows on textiles, soil, seeds, plants, & horizontal surfaces in water damaged buildings

SMUTS

Found on corn, grasses, weeds, flowering plants, & other fungi; wind disseminated

CANDIDA ALBICANS

Found in soil, organic debris, & in humans as an organism in the nasal cavity & feces

PHOMA

Grows in damp/humid areas on paper products, soil, & dead plants

MUCOR

Found in leaf litter, organic debris, & animal waste

HELMINTHOSPORIUM

Parasite found on cereals, grasses, sugar cane, soil, & textiles



Figure 2 (heave line)

RAO symptoms include chronic cough, nasal discharge, and trouble breathing. The classic "heave line" that can appear along the bottom edge of the ribs (figure 2) occurs when the abdominal muscles become large from excess work. Severely affected horses may also exhibit weight loss, anorexia, and exercise intolerance.

There are two forms of RAO: The barn-associated type, often occurring in stalled horses fed hay and summer pasture-associated, seen more commonly in horses living on pasture in the Southeast.

Most evidence suggests RAO is the result of the lung's hypersensitivity to inhaled antigens. The most common allergic triggers are mold, organic dust, and endotoxin in hay and straw.

Although relief medications will alleviate clinical RAO symptoms, the respiratory disease will return if the horse remains in the same environment once the medications are discontinued. Since bronchodilators have minimal to no anti-inflammatory activity, they should not generally be the sole treatment for RAO.

RAO is a chronic disease, requiring life-long management. Hyposensitization, alongside environmental and dietary management may help reduce the clinical symptoms of RAO.

Sources: Recurrent Airway Obstruction (RAO) in the Horse; Amanda House, DVM. AAEP. <https://aaep.org/horsehealth/recurrent-airway-obstruction-rao-horse>
Recurrent Airway Obstruction in Horses; Bonnie R. Rush, DVM, MS, DACVIM, Kansas State University. <https://www.merckvetmanual.com/respiratory-system/respiratory-diseases-of-horses/recurrent-airway-obstruction-in-horses>

Figure 1: Airway Diseases In Horses; Susan Stafford-Pooley. https://horse-canada.com/magazine_articles/airway-diseases-in-horses/

**Most abundant molds worldwide*

Questions? Visit us at Nextmune.US

Insect bite hypersensitivity

Insect bite hypersensitivity (bug bite allergy or IBH) is a common summer problem. Susceptible horses are actually allergic to the insect's saliva. Horses can have allergic reactions to any biting insect, but the most common are Culicoides (also known as gnats, midges, sand flies, and punkies), black flies, stable flies, horse flies, and mosquitoes. Symptoms may include hives, itchiness, hair loss, and dermatitis. Diagnosis of IBH can be determined by the time of year the symptoms occur, along with positive allergy test results.

Treatment must first involve avoidance and repelling insects. Routine barn maintenance, such as removing manure and standing water, disrupts insect breeding and decreases their numbers. For more natural options, consider fly masks, sheets, or wraps. Insect control using insecticides containing at least 0.2% pyrethrin or permethrin is recommended. Always check with your veterinarian first and read the product label carefully before buying and using any pesticides.

Omega-3 fatty acids can also reduce inflammatory reactions. They decrease skin inflammation and promote a healthy coat without the possible side effects of corticosteroids. Hyposensitization can be used to decrease the symptoms associated with these allergies, by acclimating the horse's immune system via small, controlled doses of the allergens they've reacted to.



culicoides



horse fly



mosquito



stable fly



black fly



Food sensitivities

Horses that test positive to multiple foods could be dealing with a condition called Leaky Gut Syndrome. Leaky Gut Syndrome is a breakdown of the protective intestinal tract lining, coupled with an imbalance in the horse's natural intestinal flora. This imbalance interferes with the horse's ability to completely digest their food. The breakdown of the intestinal lining allows the larger proteins from improperly digested food to be absorbed in the bloodstream. These larger proteins are interpreted as foreign invaders and trigger an immune response, resulting in a food sensitivity or true food allergy.

If your horse's allergy test results indicate they are sensitive to certain foods, reduce the sensitivity by removing these foods from your horse's diet.

Sources: Insect bite hypersensitivity; Bryan Waldrige, DVM. June 2013. <https://ker.com/equine/news/insect-bite-hypersensitivity/>
Food allergies & sensitivities in horses; Madalyn Ward, DVM. <http://www.holistichorsekeeping.com/articles/food-allergies-and-sensitivities-in-horses.html>

Questions? Visit us at Nextmune.US



ALLERGY MANAGEMENT CHECKLIST TIPS AND MEDICATIONS

While it is unrealistic to complete **all** the management tips listed below – the more you do, the better chance you have of providing your horse relief.

RAO

Barn-associated RAO is most common in winter and spring, pasture-associated RAO in summer and early fall. RAO typically affects horses 9-12 years of age and isn't more common in one gender. The highest prevalence occurs in stabled horses fed hay in the Northeast and Midwest. There also appears to be a genetic component.

Date	Maintenance Tips	Date	Medications
	Wet or steam hay prior to feeding (mild cases)		Systemic corticosteroids
	Maintain horses on pasture (barn-associated)		Aerosolized bronchodilators (immediately helpful during respiratory distress)
	Clean, well ventilated stalls (pasture-associated)		Dexamethazone (severe cases)
	Avoid storing hay above stalls in barn loft		Prednisolone (moderate cases)
	Minimize sweeping floors when affected horses are stalled		Albuterol (benefits within 5 minutes of administering)
	Avoid straw bedding (consider chopped paper or cardboard)		Clenbuterol (for longer acting effects)
	Transition to pelleted feed (severe cases – consult your veterinarian before abruptly changing feed)		
	Avoid round bale hay		

Questions? Visit us at [Nextmune.US](https://www.nextmune.us)



ALLERGY MANAGEMENT CHECKLIST

TIPS AND MEDICATIONS

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GI ISSUES

Environmental and dietary factors, antibiotics, NSAIDs, and steroids, have been thought to change gut bacterial populations and can cause sensitization to common food antigens. Leaky Gut Syndrome forms when severe inflammation occurs in the horse's GI tract. For more information, see page 9. There are several steps below you can take to promote digestive wellness for your horse.

Date	Maintenance Tips	Date	Dietary Conditioning Supplements
	Remove offending foods from their diet, allowing intestines to heal		Probiotics (supplements with active ingredients like microbes & digestive enzymes)
	Feed small meals throughout the day, instead of a couple large ones		Prebiotics (supplements with active ingredients like microbes & digestive enzymes)
	Provide free access to hay		L-Threonine (lubricates and protects the gut's lining)
	Offer regular turnout		Polar Lipids, Beta Glucan (aids in nutrient absorption and provides a variety of benefits in the gut)
			L-Glutamine (helps maintain tight junctions in the gut lining, preventing pathogen leakage and systemic interaction)

Sources: Digestive Health Risks; Succeed-Equine.com. <http://www.succeed-equine.com/education/gi-health-care/health-risks/>
Leaky Gut Syndrome; HolisticHorse.com. <https://holistichorse.com/health-care/leaky-gut-syndrome/>
Leaky Gut Syndrome; Holistic Horsekeeping with Dr. Madalyn Ward. <http://www.holistichorsekeeping.com/articles/leaky-gut-syndrome.html>

ALLERGY MANAGEMENT CHECKLIST

TIPS AND MEDICATIONS

While it is unrealistic to complete **all** the management tips listed below – the more you do, the better chance you have of providing your horse relief.

SKIN ISSUES

Skin diseases in horses are prevalent throughout the year, though some types may be seasonal. These issues can be caused by various infectious agents—bacteria, viruses, fungi, parasites, or environmental irritants. Promptly treating the disease is critical, not only to alleviate your horse's discomfort, (such as itchiness and soreness), but also to improve their overall health.

Date	Maintenance Tips	Date	Medications
	Remove manure		Pramoxine HCl sprays/lotions
	Eliminate standing water		Fly sprays
	Minimize dust in barn		Fly deterrent supplement
	Improve ventilation		Antioxidants
	Bed on low dust chopped paper/ cardboard		MSM
	Bathe with oatmeal shampoo, fatty acid shampoo, or HC formulation		Omega-3 fatty acids
	Place fans in stalls	<small>Sources: A closeup look at equine skin diseases; Ed Kane, PhD. DVM360. http://veterinarynews.dvm360.com/closeup-look-equine-skin-diseases</small>	
	Fly mask/sheet		

Questions? Visit us at Nextmune.US

4 STEPS TO LASTING RELIEF

1



STARTING POINT

Understand where your horse is now so you can assess their progress later.

Where's your horse on the itch scale?

Why did you test initially?

What are your ideal goals/outcomes?

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

1-3 Mild 4-6 Moderate 7-10 Severe

2



ORDER TREATMENT

Which option is best for you – injections or drops?

How long will they last?

Injections last 283 days and the oral drops last 100 days. Injections start out every other day and work up to once per month, whereas drops are once daily. They both can treat up to 20 allergens in a single set.

3



EXPECTATIONS

What is a "success"?

We consider a success the effective elimination (or significant reduction) of steroid or relief medications.

When should I see improvement?

Allergy treatment is a long-term process, but it is the only way to address the real reason a horse suffers. It can take up to 4-6 months before you see the therapy's benefits. Every horse responds differently.

4



WHY MAINTENANCE?

Allergy treatment is a solution that is usually required indefinitely, since allergies are a life-long problem. After symptoms subside, it is important to maintain the tolerance you've established. If you stop treatment, tolerance will fade, symptoms can re-emerge, and you'll have to start over.

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Share your horse's allergy
journey @NextmuneUS
***Your horse could be our
next success story.***

Thank you for choosing
Nextmune US
for your allergy testing.



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