



## Wildwood Farm CLIPS & CLOPS Oak Harbor

### AUGUST 2024

Your Monthly Newsletter and Neigh-borhood Hullabaloo

Edited by Heather Carder

### DMSO: Many Uses, Much Controversy

by Maya Muir & Jonathan Jarry M.Sc

A typical day of watching horses at the training center took an unexpected turn when one trotted by with a noticeable limp. Upon closer inspection, her leg was warm and swollen, clearly in need of attention. Thankfully, the trainer contacted a vet immediately for evaluation and treatment – he prescribed rest and gave her some DMSO.

If you own horses or spend a lot of time around them, having a good grasp of the uses of DMSO is essential. So, let's find out more about this versatile medication and see whether your horse and you can benefit from it.

DMSO or dimethyl sulfoxide is a small molecule centered around a Sulphur atom. Its isolation was first reported in 1867 by Russian chemist Alexander Zaytsev. Importantly, it is generated as a waste when wood

fibers are broken down during the manufacture of paper. At the beginning of the 1960s, an Oregon-based paper goods manufacturer, the Crown Zellerbach Company, asked its staff chemist Robert Herschler if all of this DMSO that they had to get rid of could be used commercially in some fashion. Why throw something away when it could make you money?

Herschler was approached by a professor of surgery at the local university named Stanley Jacob, who was interested in preserving biological material at very low temperatures for transplantation. A British team had noted that DMSO was a good antifreeze when storing blood cells, and Jacob wanted to get his hands on DMSO, so he went to the Crown Zellerbach Company.

DMSO has been in use as a commercial solvent since 1953 and is also one of the most studied but least understood pharmaceutical agents of our time - at least in the United States. The Food and Drug Administration (FDA) has currently

approved it only for use as a preservative of organs for transplant and for interstitial cystitis, a bladder disease. It has fallen out of the limelight and out of the mainstream of medical discourse, leading some to believe that it was discredited. The truth is more complicated.

### DMSO: A History of Controversy

The history of DMSO as a pharmaceutical began in 1961, when Dr. Jacob was head of the organ transplant program at Oregon Health Sciences University. It all started when he first picked up a bottle of the colorless liquid. While investigating its potential as a preservative for organs, he quickly discovered that it penetrated the skin quickly and deeply without damaging it. He was intrigued. Thus began his lifelong investigation of the drug.

The news media soon got word of his discovery, and it was not long before reporters, the pharmaceutical industry, and patients with a variety of medical complaints jumped on the

*Continued on page 11*

**WHAT'S TRENDING NOW**

**The Pee Wee Horse Bit**

**The only horse bit in the world that does not contact the sensitive sides of the horse's mouth.**

The Macs Equine Pee Wee Horse Bit is revolutionary in design. Recommended and loved by legendary horsemen Guy McLean and Steve Brady are now used worldwide to great acclaim. The Pee Wee bit is unlike any other bit on the market. This bit is so comfortable and kind in the horse's mouth it gives the horse freedom to learn in a painless way.

**The three unique features of the Pee Wee Horse Bit:**

First, The Macs Equine Pee Wee bit is unique in that it is the only bit that has a floating mouthpiece! This unique feature prevents the horse's tongue being pinches against the teeth, as a result the horse does not learn to put his tongue over the bit. It also allows the horse to eat and drink freely as the horse's tongue can move freely with the floating mouthpiece.

Next, The Macs Equine Pee Wee bit has a thinner mouthpiece which allows room in the horse' mouth for both the mouthpiece and the tongue, as research shows 80% of horses have low palates and the

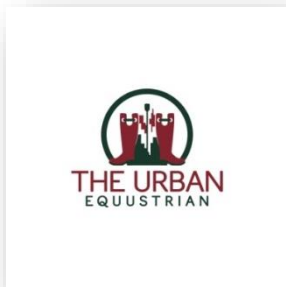


majority of traditional bits have thick mouthpieces which create constant bruising to the soft palate. The Pee Wee has a sweet iron mouthpiece that stimulates saliva and prevents the horse's mouth from drying out. Sweet iron also tastes great to a horse and promotes a pleasurable experience.

Finally, The Pee Wee is the only bit on the market where the big rings do not contact the sensitive side of the horse's face. The Pee Wee eliminates the horse's lips being forced against the teeth. In other bits the pinching causes the horse pain and results with the horse leaning on the bit and tossing its head to the side. The large rings of the Pee Wee fold back over the outside of the small side bars. These unique sidebars keep the rings away from the lips. The sidebars are strategically positioned just outside of the lower jaw and only contact the jaw when rein contact is given, giving a clear signal to the horse to move away from the pressure.



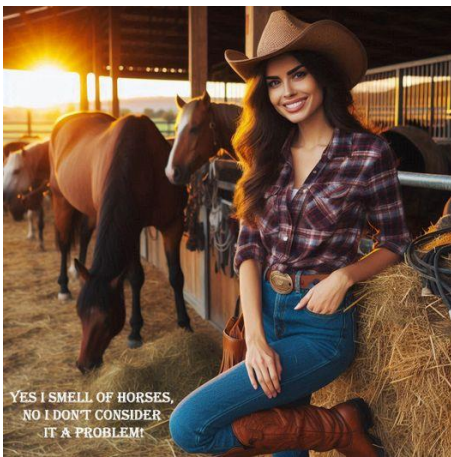
Our Store is currently open by Appointment.



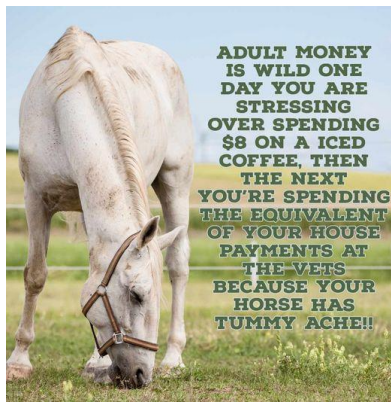
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**New Items for August**





YES I SMELL OF HORSES,  
NO I DON'T CONSIDER  
IT A PROBLEM!



ADULT MONEY  
IS WILD ONE  
DAY YOU ARE  
STRESSING  
OVER SPENDING  
\$8 ON A ICED  
COFFEE, THEN  
THE NEXT  
YOU'RE SPENDING  
THE EQUIVALENT  
OF YOUR HOUSE  
PAYMENTS AT  
THE VETS  
BECAUSE YOUR  
HORSE HAS  
TUMMY ACHE!!



"Make sure you lay aside money for the future."

My money laying on its side:



Childcare -  
equestrian edition



My mom told  
me I can be  
anything I  
want to be  
when I grow  
up. S-o-o-o  
I thought and  
I thought and  
I made my  
decision.  
I am going to  
be a  
Budweiser  
Clydesdale.  
~ ~ ~



HE LIVED IN FEAR THAT THE OTHER  
THOROUGHBREDS WOULD DISCOVER  
HE WAS NOT NATURALLY HIGH STRUNG.



If you know, you know.



If you think having animals isn't like  
having children, Violet just played  
dead because I made her wear a coat.



When somebody tells me to do  
something I was already gonna!

Well now  
I'm not  
doing it!!

I CANNOT BRAIN TODAY  
I HAS THE DUMB!



When a horsewoman reaches a certain  
age they start collecting miniatures,  
this is called 'Mini-pause'

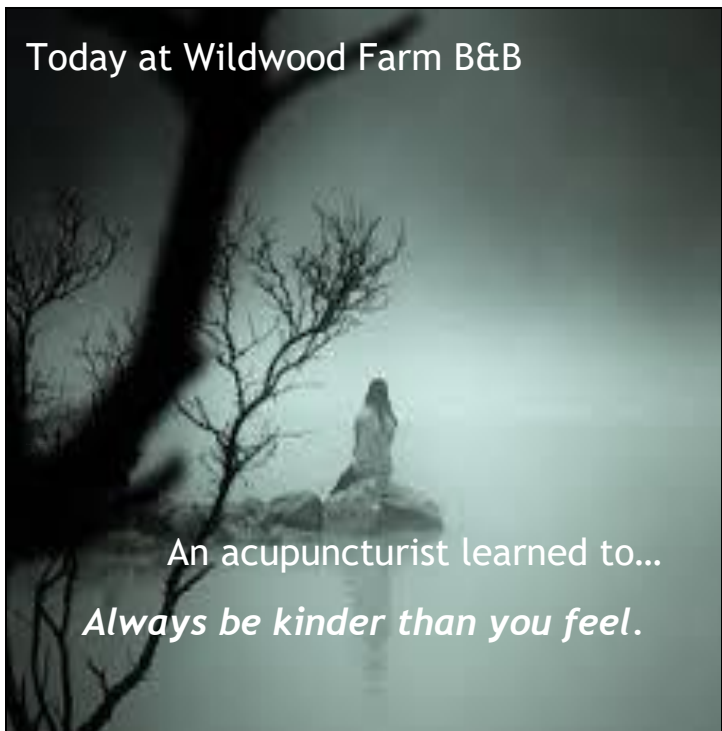


## WILDWOOD FARM B&B



### This is your moment.

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An acupuncturist learned to...  
*Always be kinder than you feel.*

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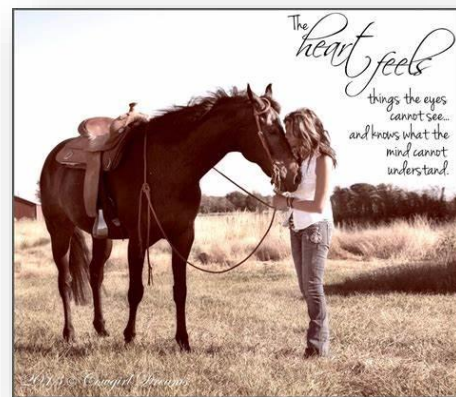
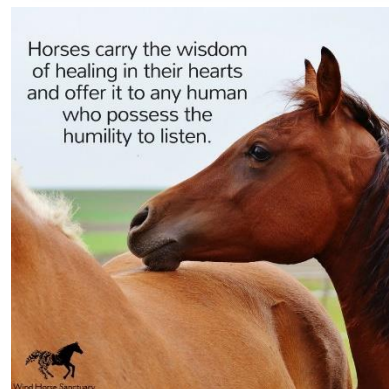
Our ranch has a long history of igniting the spark between horses and humans, whether you want a small introduction or total immersion.

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PACIFIC NORTHWEST  
RIDING ACADEMY

# Kentucky Derby winner Mystik Dan crowned after thrilling three-way photo finish

Race came down to three-way photo finish as favorite Fierceness placed 15th



Mystik Dan, jockeyed by Brian Hernandez, Jr, was named the winner of the 150th Kentucky Derby, defeating 19 other three-year-old horses who competed, including the favorite, Fierceness, in a thrilling race. The winner wasn't immediately clear though.

The race came down to a three-way photo finish between Mystik Dan, who surged to a late lead down the inner rail of the track, narrowly beating Sierra Leone and Forever Young, who sought to catch up on the outside.

Mr. Hernandez, speaking from the winner's podium, said he realized he might have a shot at the win as Mystik Dan entered the final portion of the race. "I asked him to go for it and he shot off, and I was like, 'Man, we have a chance to win the Kentucky Derby,'" the jockey said.

At one point, the pair were so close to the railing of the track Mr. Hernandez scuffed his boot. "I think we can buy another pair of boots," the jockey joked after the win. The champion horse took home the Triple Crown trophy after running on May 4 around the 1.25-mile track at the Churchill Downs, the iconic racecourse in Louisville, Kentucky.

Mystik Dan was considered a long shot, entering the race with 18-1 odds. Mr. Hernandez and trainer Kenny McPeck won the Kentucky Oaks race the previous day with horse Thorpedo Anna, the first trainer-jockey duo to win both races in a single year since 1952.

The horses and their jockeys at the derby were competing for a whopping \$5m prize, which is split among the top five finishers. The owner of this year's winner was awarded \$3.1m — more than last year's total purse. The jockey got \$310,000 of the loot.

On Saturday, the derby, dubbed "the most exciting two minutes in sports", celebrated its 150th anniversary. Four of the riders made their Kentucky Derby debut on Saturday, according to the *Courier-Journal*.

Fierceness was frequently named on a shortlist of horses expected to win the race. The horse's jockey, John Velazquez, was vying to become the fourth jockey ever to win the race four times or more, the outlet reported. Fierceness and Mr. Velazquez came up against tough odds though: no horse has ever won from the No.17 post, and Fierceness ultimately finished at 15th.

## Nutrition Corner

### Is it OK to ride an ulcer-prone horse after feeding?

While it's true that it is typically best to avoid feeding horses concentrates (especially those high in starch) within a couple of hours of riding due to the effect this can have on available metabolites during exercise, allowing access to forage has a number of benefits. Remember horses are designed to eat fibrous plant material almost constantly, while at the same time traveling considerable distances.

As a result of this constant forage consumption, horses have evolved to secrete gastric acid into their stomachs on a continuous basis. Acid is secreted whether they are eating or not and is needed to activate enzymes involved in protein digestion. The act of chewing causes the release of saliva, which contains sodium bicarbonate and calcium—both of which act to buffer stomach acid. It's a brilliant system, because the constantly secreted stomach acid is buffered by the continuous release of saliva from chewing.

But what happens when, instead of continuous access to forage, we meal-feed our horses? The stomach acid is secreted as always, but there is no longer a steady saliva supply. That's because most horses finish their allotted hay meal in at most a couple of hours unless eating out of a slow feeder. This leaves the stomach environment to become increasingly acidic and raises ulcer risk.

If it has been several hours since your horse last had access to hay or other forage, it is recommended to offer some hay prior to riding. While consuming forage might increase body weight, which some believe is a negative attribute for horses needing to work at speed, researchers have showed that feeding small amounts of hay or grazing prior to exercise doesn't negatively impact performance.

If you have a choice in available, hay, offering access to alfalfa before exercise is the best option, due to the buffering capacity.

#### WILDWOOD FARM AND TRIPLE CROWN FEEDS.

Our partnership with Triple Crown began in 2014 through a promotion with the USEF encouraging farm members to compare their current feeding programs with Triple Crown products. We have found the TC products to be superior to other products primarily because of the EquiMix technology and the research support of a leading-edge team including independent representatives of Equine Universities, Medical clinics and top-level riders and trainers

## Meet Zandanseur

In March of 2009 a delicate, chiseled little filly was born on Wildwood Farm, to French Dancer, one of our Thoroughbred brood mares. It was the first time we crossed this mare with an Akhal-teke stallion, and we were immediately smitten with her exquisite beauty. A rich coppery bay color with large eyes and snaky neck, she moved like a dream even when she was just days old.

We would soon learn how much drama followed this little girl; when French Dancer was taken to the veterinary clinic just a few days after Zen was born to be bred again, little Zen somehow decided she would try and go through the pipe corral, and she fractured her head. Luckily, she was at the right place and the surgeon there stitched her up with an optimistic view for her recovery.

And she did recover with just the slightest bump on her forehead, and she grew into quite a beauty to look at. She was, however, a spicy young horse that was known to have sudden bursts of squealing and drama, just being led to the pasture for turn out. She even



Clipped one of our trainers when she did airs above the ground, she was definitely a little naughty!

When Zen was a yearling, she was shown in the American Warmblood Society inspection, and she received an 84% and a premium/preferred rating. She also won her 2 yr. old in hand class at a local sport horse show. Her career was just beginning, and we had plans to start her jumping training when she was 3.

Sadly, that was not in the cards. One afternoon, a staff person witnessed Zen leap the 6-foot fence of her pasture and land on her side; she got up but was severely limping. The vet was called out and she had fractured her stifle; but she was in incredible pain, more than she should have been. Within 12 hour she had died; the vet later discovered that her intestine had burst, which is why she probably jumped the fence in the first place. Such as short life for a promising filly.

## Free Horse Activity Pages

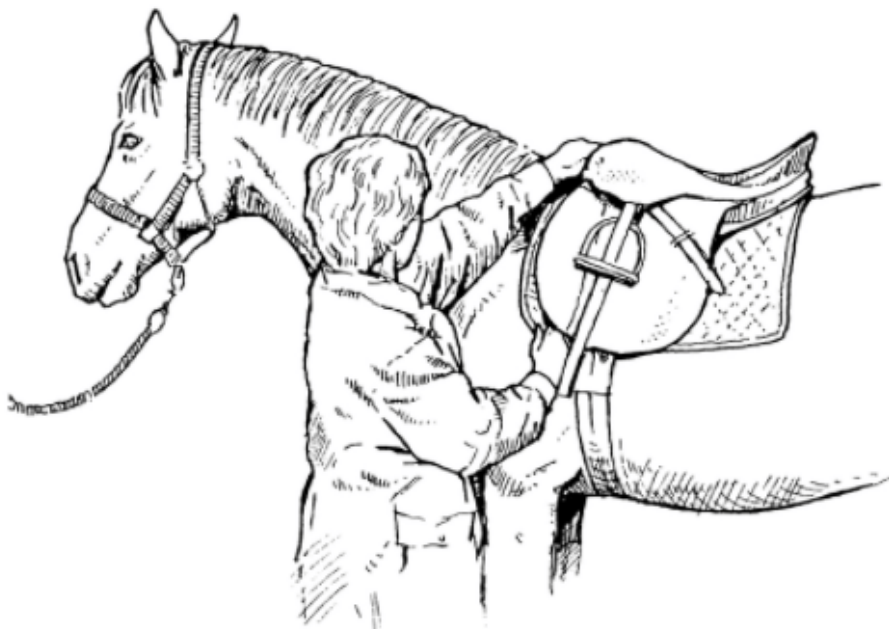
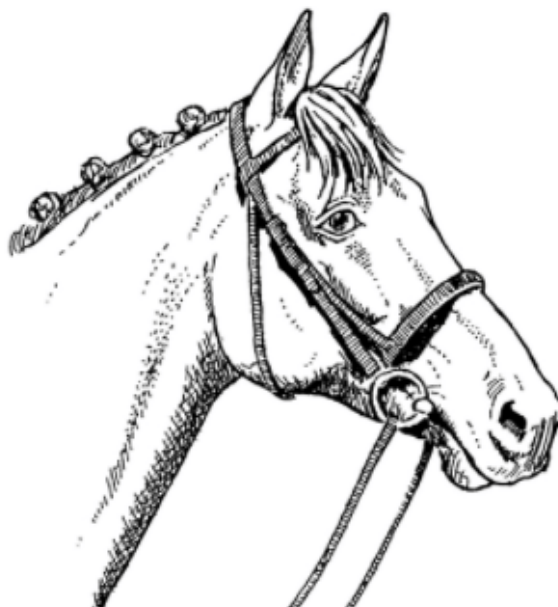
white-oak-stables.com



# English Tack

These are items we use to ride the horse. Color the box next to each word and then use that same color for the part of the tack in the picture.

- Snaffle Bit
- Brow Band
- Throat Latch
- Nose Band
- Crown
- Reins
- Halter
- Lead Rope
- Pommel
- Saddle Pad
- Stirrup
- Girth
- Stirrup Leather
- Cantle
- Twist



**Bonus Round!** Color one horse **bay** and the other horse **chestnut**.

# FABULOUS HORSE MURALS!

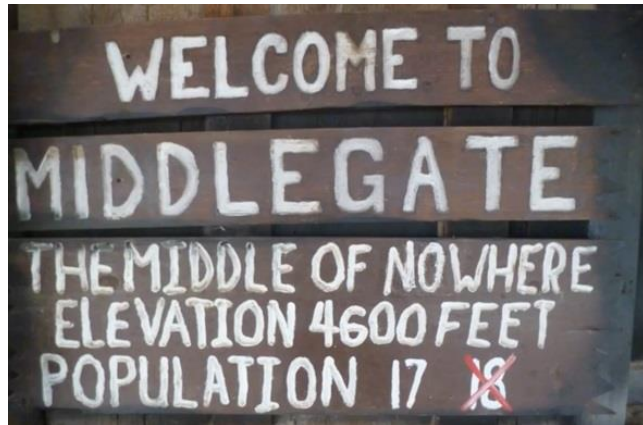




# Middlegate Station

## Fallon, Nevada

**This Old West eatery along America's Loneliest Road was originally a stop on the Pony Express.**



**ALONGSIDE A STRETCH OF THE** historic Lincoln highway, U.S. Route 50, dubbed the Loneliest Road in America, is an isolated Wild West-style saloon announced by a wooden sign that (accurately) describes its location as “in the middle of nowhere.”

This rustic restaurant in the heart of the Nevada desert, decorated with bull skulls, a neon “BAR” sign, and an antique wagon, is Middlegate Station, a historic eatery created in the 19th century as a stop on the Pony Express.

Founded in 1857 by James Simpson, the restaurant that stands today was once an active station and rest stop along the historic Pony Express Trail, serving horses and their riders alike. Due to its location between two gate-like cuts in the mountains—known as Eastgate and Westgate—this station became known as Middlegate Station.

When the Pony Express ceased operations in October of 1861, Middlegate Station remained open, serving as a stage and freight stop for gold and silver mines. Ever since, it has survived as the only gas station for nearly 50 miles in either direction and a rare roadside eatery along the Lincoln Highway.

In addition to its rustic splendor, Middlegate Station features the legendary Middlegate Monster Burger, so big that those who finish it walk away with a free t-shirt. And if you feel like leaving a tip, the tip jar is quite a reach: The ceiling of Middlegate Station is covered in cash for decor, and you can make a donation of your own.

According to the owner, the cash on the ceiling started because there wasn't a nearby bank. Regulars would attach dollar bills to the ceiling with their names on it, so they'd have some left to spend on another visit.

# The Eriskay Pony



The Eriskay Pony is the last remnant of Scotland's native horse. There are fewer than 300 Eriskay Ponies in the world and the Rare Breed Survival Trust lists its status as "Priority" on their Watchlist. The breed is defined by the Studbook of Origin of Comann Each nan Eilean, the mother society for the pony.

The purebred Eriskay Pony dates as a defined breed from 1972. All Eriskay Ponies must be traceable to the Foundation Stock, as listed within Volume One (1972-1985) of the Studbook of Origin for the Eriskay Pony, kept by Comann Each nan Eilean. Since 1986, only purebred stallions have been used for breeding in order to upgrade the breed.

The Eriskay Pony has an excellent temperament, and is strong and sturdy, being ideally suited to the harsh environment of its native heath, the Outer Hebrides of Scotland. Their coarse winter coat gives way to a lighter coat during the summer months. The Eriskay is a grey pony although occasionally other colors may be seen. New-born foals can be black or bay in color but this gradually fades to the grey coloration seen in the adults. They can stand up to 13.2hh.

The Eriskay Pony is Scotland's native horse and a jewel of Scotland's natural heritage. Its origins can be traced through written sources, stone carvings and other ancient depictions. The ancestors of the Eriskay Pony are the undomesticated equine which roamed the forests and hills of Scotland before people lived here. The Eriskay pony is the last living reference to the kind of mount which was used by the Picts at the Battle of Nechtansmere (685AD) and the little grey palfrey ridden by King Robert the Bruce at the Battle of Bannockburn (1314AD).

The native Scottish ponies were incalculably numerous throughout Scotland in the 18th and 19th centuries, particularly in the Highlands and Islands where they played an important role in the lives and economy of the people. The Highland Clearances and other factors took their toll on these native ponies. Many were taken from the region and many more were crossbred with larger breeds, giving today's Highland Pony. However, a few remained in their pure state on the Isle of Eriskay, no stallions of other breeds having been taken there.

That the Eriskay Pony breed survives today, even if critically endangered, is a miracle. To highlight how close the pony came to extinction, the last known pure stallion on Eriskay died in 1971, a year prior to the foundation of Comann Each nan Eilean.

There were several reasons for the breed's decline. With the increasing abandonment of traditional crofting methods and the coming of mechanization, fewer households keep them. Then the introduction of the car ferry and eventually the causeway in 2002 further eroded the necessity to keep a pony.

Cont'd from page 1

News. Because it was available for industrial use beginning in 1953, patients could dose themselves. This early public interest interfered with the ability of Dr. Jacob - or, later, the FDA - to see that experimentation and use were safe and controlled and may have contributed to the souring of the mainstream medical community on it.

Why, if *DMSO* possesses half the capabilities claimed by Dr. Jacob and others, is it still on the sidelines of medicine in the United States today?

"It's a square peg being pushed into a round hole," says Dr. Jacob. "It doesn't follow the rifle approach of one agent against one disease entity. It's the aspirin of our era. If aspirin were to come along today, it would have the same problem. If someone gave you a little white pill and said take this and your headache will go away, your body temperature will go down, it will help prevent strokes and major heart problems - what would you think?"

Others cite *DMSO's* principal side effect: an odd odor, akin to that of garlic, which emanates from the mouth shortly after use, even if use is through the skin. Certainly, this odor has made double-blinded studies difficult. Such studies are based on the premise that no one, neither doctor nor patient, knows which patient receives the drug and which the placebo, but this drug announces its presence within minutes.

Others, such as Terry Bristol, a Ph.D. candidate from the University of London and president of the Institute for Science, Engineering and Public Policy in Portland, Oregon, who assisted Dr. Jacob with his research in the 1960s and 1970s, believe that the smell of *DMSO* may also have put off the drug companies, that feared it would be hard to market. Worse, however, for the pharmaceutical companies was the fact that no company could acquire an exclusive patent for *DMSO*, a major consideration when the clinical testing required to win FDA approval for a drug routinely runs into millions of dollars.

## The FDA and DMSO

In the first flush of enthusiasm over the drug, six pharmaceutical companies embarked on clinical studies. Then, in November 1965, a woman in Ireland died of an allergic reaction after taking *DMSO* and several other drugs. Although the precise cause of the woman's death was never determined, the press reported it to be *DMSO*. Two months later, the FDA closed down clinical trials in the United States, citing the woman's death and changes in the lenses of certain laboratory animals that had been given doses of the drug many times higher than would be given humans.

Some 50 years and thousands of laboratory and human studies later, no other deaths have been reported, nor have changes in the eyes of humans been documented or claimed. Since then, however, the FDA has refused seven applications to conduct clinical studies, and approved only 1, for interstitial cystitis, which subsequently was approved for prescriptive use in 1978.

Dr. Jacob believes the FDA "blackballed" *DMSO*, actively trying to kill interest in a drug that could end much suffering. Jack de la Torre, MD, Ph.D., professor of neurosurgery and physiology at the University of New Mexico Medical School in Albuquerque, a pioneer in the use of *DMSO* and closed head injury, says, "Years ago the FDA had a sort of chip on its shoulder because it thought *DMSO* was some kind of snake oil medicine. There were people there who were openly biased against the compound even though they knew very little about it.

## *DMSO* Penetrates Membranes and Eases Pain

The first quality that struck Dr. Jacob about the drug was its ability to pass through membranes, an ability that has been verified by numerous subsequent researchers. *DMSO's* ability to do this varies proportionally with its strength - up to a 90 percent solution. From 70 percent to 90 percent has been found to be the most effective strength across the skin, and, oddly, performance drops with concentrations higher than 90 percent.

In addition, *DMSO* can carry other drugs with it across membranes. It is more successful ferrying some drugs, such as morphine sulfate, penicillin, steroids, and cortisone, than others, such as insulin. What it will carry depends on the molecular weight, shape, and electrochemistry of the molecules. This property would enable *DMSO* to act as a new drug delivery system that would lower the risk of infection occurring whenever skin is penetrated.

# WILDWOOD FARM Clips & Clops Newsletter

2326 Happy Valley Rd  
Oak Harbor WA 98277

*DMSO* perhaps has been used most widely as a topical analgesic. Laboratory studies suggest that *DMSO* cuts pain by blocking peripheral nerve C fibers. Burns, cuts, and sprains have been treated with *DMSO*. Relief is reported to be almost immediate, lasting up to 6 hours. A number of sports teams and Olympic athletes have used *DMSO*.

Dr. Jacob said at a hearing of the U.S. Senate Subcommittee on Health in 1980, "*DMSO* is one of the few agents in which effectiveness can be demonstrated before the eyes of the observers...If we have patients appear before the Committee with edematous sprained ankles, the application of *DMSO* would be followed by objective diminution of swelling within an hour. No other therapeutic modality will do this."

## **DMSO and Inflammation**

*DMSO* reduces inflammation by several mechanisms. It is an antioxidant, a scavenger of the free radicals that gather at the site of injury. *DMSO* also stabilizes membranes and slows or stops leakage from injured cells.

Stephen Edelson, MD, F.A.A.F.P., F.A.A.E.M., who practices medicine at the Environmental and Preventive Health Center of Atlanta, has used *DMSO* extensively for 4 years. "We use it intravenously as well as locally," he says. "We use it for all sorts of inflammatory conditions, from people with rheumatoid arthritis to people with chronic low back inflammatory-type symptoms, silicon immune toxicity syndromes, any kind of autoimmune process.

"*DMSO* is not a cure," he continues. "It is a symptomatic approach used while you try to figure out why the individual has the process going on. When patients come in with rheumatoid arthritis, we put them on IV *DMSO*, maybe three times a week, while we are evaluating the causes of the disease, and it is amazing how free they get. It really is a dramatic treatment."

## **Other Possible Applications for DMSO**

Many other uses for *DMSO* have been hypothesized from its known qualities and have been tested in the laboratory or in small clinical trials. In relation to cancer, several properties of *DMSO* have gained attention. In one study with rats, *DMSO* was found to delay the spread of one cancer and prolong survival rates with another. In other studies, it has been found to protect noncancer cells while potentiating the chemotherapeutic agent.

Much has been written recently about the worldwide crisis in antibiotic resistance among bacteria. Here, too, *DMSO* may be able to play a role. Researcher as early as 1975 discovered that it could break down the resistance certain bacteria have developed.

In addition to its ability to lower intracranial pressure following closed head injury, Dr. de la Torre's (New Mexico) work suggests that the drug may actually have the ability to prevent paralysis, given its ability to speedily clean out cellular debris and stop the inflammation that prevents blood from reaching muscle, leading to the death of muscle tissue.

With its great antioxidant powers, *DMSO* could be used to mitigate some of the effects of aging, but little work has been done to investigate this possibility. Toxic shock, radiation sickness, and septicemia have all been postulated as responsive to *DMSO*, as have other conditions too numerous to mention here.