# Dog Field Care Manual

**How to Care for mangy run-down dogs in 2nd & 3rd world countries (and in developed countries, too)**

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**Why do it?**

Have you ever seen a sick or mangy dog and you found yourself saying: “I wish there were something I could do to help that poor creature?” Are you an expatriate living in a second or third world country where these sick and wounded animals are everywhere to be found?

And are you a ‘dog person’, that is, someone who appreciates ‘man’s best friend’, who has benefitted from a dog’s friendship, or who can simply appreciate the fact that for thousands of years dogs have helped us survive? Dogs paid a price for becoming domesticated because there was a time when dogs didn’t need our help, when they knew how to hunt and survive on their own (the way cats still can). We humans ‘asked’ dogs to live with us so that we could benefit from their companionship, and guarding the livestock and warning us of dangers and protecting us from dangers. In exchange, dogs ‘unlearned’ how to hunt and survive on their own in order to become our helpers, companions and pets. The Nova special, "Dogs Decoded", mentions that without dogs we as a species may not have survived the transition from hunter-gatherers to agriculture because it was dogs who protected our herds--protein--from prey.

This manual will show you how you can spend some time outside helping man’s best friend and at the same time get to know your community, meet people and make your life more interesting and meaningful. It doesn’t require a lot: a handful of readily available medicines, plus some dry dog food (or real meat and chicken soup when it is convenient or when you have an especially sick animal).

And the satisfaction that comes from watching a mite-infected, sick and possibly hairless dog gain his strength and beauty back over a period of just a few weeks is hard to beat—all because you gave him a few dollars (or less) of medicine---this feeling is hard to beat if you love dogs.

To us Westerners those dogs we see who have no or little hair, reddened, inflamed skin and are itching and scratching, —these dogs appear to need expensive hospitalization. This manual will tell you how to 'fix' those pathetic-looking dogs, often for only a dollar—or even less. (Money units here are given in U.S. dollars). That is, if you do it yourself. But if you take it to a vet in say, Thailand, you can end up spending 5, 10, 20 or more dollars. In the West it would be hundreds of dollars as the vet would want to run all sorts of expensive—often unnecessary--tests, and charge you a lot of money for medicine that costs pennies in places like Thailand. Besides, most Western vets have never treated the kinds of cases you will be treating. Pretty soon you will have more experience than Western vets treating bad cases of mites (mange) and skin infections.

If you live in Thailand, for example, you can visit the temples in your town or village where you will find needy dogs. Or just look around on the street corners. Taking that many dogs to the vet is prohibitively expensive and time consuming. Easier for your to sit down and pull your cheap medicines out of your backpack while the dogs gather round you to get the dog food you are putting down for them. That way, you can easily administer the meds (often: Ivermectin) and clear up the terrible suffering the itching, infected dogs are experiencing—all for just a little money. And please take as many dogs as you can afford to a vet to have them neutered. Costing as little as $10 a dog to neuter, you will prevent a lot of suffering by lowering the birth rate.

The cost of medicine is often very cheap in countries like Thailand (where I have lived). There are a handful of bugs, parasites and bacteria which can make the life of a dog miserable. But because medicine is so cheap in poorer countries you can relieve the dogs suffering often for just 20 cents or less. For example, dogs infested with mites and little or no hair can sometimes be cured for as little as 10 cents worth of **Ivermectin** given orally, which you can squirt into a small bowl of milk which the dogs will drink. Or you can squirt the Ivermectin directly in their mouths if they will let you get close to them and then place a bowl with a little milk down for them to overcome the unpleasant taste of Ivermectin—this will assure you the dogs will come close next time you visit them.

You can carry your bottle of Ivermectin everywhere you go and administer it anytime you see one of these skin-inflamed, losing-hair, itching-terribly dogs. Even if you decide not to obtain and use all the other medicines mentioned here, **if you were going to do just one thing to alleviate suffering in these dogs,** then **buying a bottle of Ivermectin would be it**. A little bit **orally**--(you do NOT need to inject—see below)--given to a dog with red inflamed skin, itching terribly, with hair loss—will kill the mites, stop the itching and suffering, allow the dog to get a good night's sleep. Keep a couple of boxes UHT milk in your pack—needs no refrigeration—and a plastic bowl. When you're out and about and see an inflamed itching dog, pull your bowl out, pour a bit of milk in it, squirt the correct amount of Ivermectin in that, (see below for correct dosages of Ivermectin), set the bowl down and step away so the dog can approach and watch your dog friend lap it up. Repeat this two weeks later and, presto, terrible itching mites are gone.

If you have the other meds I've mentioned here, then give the antibiotic pills, prednisolone, antihistamine and worm pills to the dog. You can crush/empty those tablets/capsules into the milk, except for the worm pills which are best given inside a piece of sausage. Experiment to see which meds they will drink with the milk. Otherwise, use sausage. Or you can 'pill' the dog by pushing the pill to the back of his throat (see below for correct way to do this).

Ivermectin is truly one of the world's great medicines—also used to cure and prevent river blindness in humans in Africa, and is considered an "Essential Medicine" by the World Health Organization. Once you see a suffering, hairless, inflamed, itching dog cured of its biting, burrowing mites in just a few weeks with two oral doses of Ivermectin, you will see why this medicine is so great.

Dogs with Sarcoptes mites only need two doses of **Ivermectin** given **orally**—in their food, or squirted directly in their mouths—at two week intervals to stop the terrible suffering of Sarcoptes mites, the tiny bugs that burrow under skin laying eggs and depositing feces where it enters bloodstream causing infections and suffering with terrible non-stop itching! (No, you

do not need to inject—see below for vet recommendations for giving *orally*). Cost for you to do it: about 20 cents. Cost for a Western vet to do it: about a $100 or more, because of exams, fees, tests, and exorbitant medicine costs all so the vet can earn several hundred thousand dollars per year. And there are reports of dogs being cured with only one dose, which is why if I see a stray I will give him that one dose because it is better than nothing and I may never see that stray again--though I always make an effort to find him again, especially since you will get to know their hangouts. Plus, Ivermectin kills some intestinal worms so I routinely give oral Ivermectin to just about every dog (except collies and sheep dogs and their crosses because they are allergic to Ivermectin).

The dogs you meet are only half the fun. You will also get to know the people in your community. But if you like dogs then you know how much love the dogs can give you in return for your affection and care. Go ahead, shut down your computer and unhook yourself from cable tv—get outside with your 'army-of-one' backpack, and soak up some of that fun and love that is just waiting to be had!

And, in the process, you will get to know your community better as you walk or ride around on your bike, motorbike, or car, meeting the people in your area. The best thing I did was to cancel my cable TV. This forced me to find something else to do with my time. Nature abhors a vacuum. I created a vacuum when I canceled my cable tv. No longer could I sit down and turn on the blue-light drug known as tv. I still watch movies but no longer do I zone-out for hours at a time in front of 40 or more channels of television. CNN, HBO, Bloomberg, etc etc—all those channels I thought I needed to stay 'informed'. (Okay, I am addicted to the internet). I have no control over things happening thousands of miles away but I can help those in need in my community. I find I am less stressed out if I am not watching the murder and mayhem the trauma and drama constantly spewed out of the tv.

This manual is not meant specifically for retired people. There are certainly plenty of younger people who care about dogs in poor countries and find themselves saying "I wish I could do something to help that dog." And even if you aren't living in a poor country and can't do 'hands-on' care, you can still donate money to someone who can. In Thailand there are animal shelters run by retired Westerners that deserve financial support. They don't have expensive 'overhead' with expensive salaries. Much of the donated money goes to actually buying medicine for the dogs, and spaying and neutering programs, not for huge overheads and salaries and administrative costs, as is often the case in the West. Many of the retired westerners who run these shelters already have a comfortable retirement income so they are not running their rescue centers as a 'business" to support themselves, but rather to help the dogs and so any donations they receive really do go to helping dogs, not to expensive overhead, offices, and salaries.

It was the wonderful Roshan Dhunjibhoy (deceased) in Chiang Mai, Thailand who helped launch me on this voyage of taking care of dogs and who showed me more than a few 'tricks' for administering to these dogs. Anyone wanting to learn about Roshan's amazing life can google her using her full name as I've spelled it above and you can see tributes to her here: http://roshansiempre.wordpress.com/ or http://www.lannadog.net/blog/wp-content/uploads/2011/06/Roshan-memory-booklet.pdf

If for some reason you can't get out in your community to directly help dogs you can donate to a rescue organization in a less developed country and know your money will be well spent. For one thing, they end up spaying and neutering many dogs, and this results in a great deal less suffering. For ten dollars you will neuter one dog which will prevent countless births and a great deal of suffering. If you haven't seen dogs in a second or third world country, I encourage you to visit them and see just what we're talking about. I promise you: these dogs are not like the ones you are used to seeing in the West. These dogs are sick and suffering. But dogs are tough and they can be fixed for a little money!

**Overview of Care**

A note on spaying and neutering: find a local vet who will do this for a modest amount of money, say $10 for a male dog and $15 for a female. Spay as many dogs and cats as you can. This will prevent a great deal of the suffering. In fact, this is the most cost effective way to help these animals. By reducing the crazy numbers of newborns you will be performing a great service.

As an individual, I use my own money to care for the dogs in my village, and villagers contribute money, too, when they ask me to come to their homes to care for their dogs. In other words, most of us are not 'in it for the money.' So any donations you make to these people or groups helping dogs will go directly to helping animals, not to funding air conditioned bureaucracies

I first got into this 'business' when I found a dog (or he found me!) on a Thai beach on the island of Koh Samui and this dog had huge open sores on his body with hundreds of maggots eating him. Using food, I tricked the dog into a bathroom and closed the door, and then I called Samui Dog Rescue and they came on their motorcycle with an attached dog cage and rescued him. That was the beginning of my journey. I ended up living hundreds of miles north of Samui Dog Rescue where I started my own little rescue operation in my village.

Fortunately, you won't have to treat dogs with maggots very often, or ever. See section at the end of this manual for detailed instructions on maggots: how to treat and how to prevent.

Money units in this manual will be given in U.S. dollar terms and are approximate values only. I base these numbers on how much the medicine costs me here in Thailand. Also note that I am buying medicines semi-wholesale, from a vet supplier, and not from the corner market. But remember that the corner pharmacy will sell you most of these medicines without a prescription and for much, much less than you could buy them for in the U.S.

I am not a veterinarian. You should consider verifying whatever I tell you with your local vet. In fact, it is a good idea to find a local vet to work with. There will be times when you will need his or her services. And the vets can help sell you medicines at a reduced cost if you tell them you are helping the homeless dogs. And if you find a wholesale distributor to buy from---they are even cheaper. And, in Thailand, you can buy medicines wholesale through Pet World Center, on the net www.petworldcenter.com. Send them an email and request their price and product list because you won't find it on their website. See below for medicines I recommend you order from them.

Regarding vets in Thailand & elsewhere: Make sure you are dealing with a real vet and not someone who only says he's a vet. A real vet should speak, read and write English, because medical texts are written in English and to be a doctor or a vet in a country like Thailand, you must read, write and speak English. If you see a 'vet' reusing the same needle, or who has a sloppy and dirty office, and who doesn't speak English, then know he isn't a real vet. In places like Thailand, you can call yourself a vet even if you haven't had a lot of training. If your funding permits, you can even hire your own full-time vet for as little as $700 per month. Contact www.samuidog.org for advice with this, as they hire their own Thai vet.

It is a good idea to make up a one or two page 'flyer' in the native language that you can duplicate at the copy shop which teaches the natives how to care for their dogs. One I used is attached here. The leaflet can contain the name, phone number and location of your local vet so that those needing his or her services will know where to go. By helping the vet increase his business you will earn his help when you need it.

I have found taking pictures with my digital camera of sick dogs whose diagnosis I am not sure of and then hauling my laptop to the vet's office. The nearest vet to me is 50 km but if you have a vet close then you can just take the dog there, if that is convenient. The vet looks at the pictures and tells me what to do. This saves a lot of hassle trying to bring the dog into the vet. You can show many pictures of many dogs to the vet, not just one dog. Often the vets in countries like Thailand will give you a picture diagnosis for free, charge no money for this, even if you try and pay them. I always tell the vet that I tell everyone in my town to go to

him. This way I help him build his business and he feels good about helping the homeless dogs. When I bring him my own dogs I always pay him full price. In the beginning you will probably be showing pictures to your vet a fair amount, but later you will learn what to give the dog.

But sometimes pictures aren't enough and I use the mesh dog cages in the back of my truck to haul dogs to the vet.

The handful of medicines you need to fix the sick, mangy, rundown dogs—these medicines cost very little money and are easy to get without a prescription. The medicine for **Sarcoptes** mites (mange), the bugs that cause terrible itching, hair loss, red, infected skin—the medicine is called Ivermectin and costs about $15 for a 100 ml bottle. (Buy only the generic, 'basic' Ivermectin—not the kind that has a picture of a cow on the front which is more expensive and has other things in it). This is enough medicine to treat as many as 50 (or more, depending on size) dogs. That's as little as 20 cents to kill the mites and stop the suffering of one dog. Some dogs have another kind of mite, **Demodex,** and may need Ivermectin every day for 2 months. But there are other ways to treat Demodex mites that don't involve giving Ivermectin every day—but rather giving the dog one 'bath' in Amitraz (Mitoban) every two weeks for 6-12 weeks (3 to 6 pour-on applications of a tiny amount (4 cc's) of Amitraz mixed in a liter of water) over a 6-12 week period). It is also good—especially if you can't find Amitraz--to try Lyme Sulphur—sulfurated Lime—smells like rotten eggs, the oldest known insecticide.

This is another reason why it is helpful to have a vet you can show your digital pictures to—the vet can tell you what kind of mites you are dealing with if you aren't sure. After a while, you will learn how to tell the difference. But you can always start with the two treatments of Ivermectin at two week intervals and observe. If the dog improves, it was probably Sarcoptes mites. If it doesn't improve then you can switch to everyday administration of Ivermectin (or the 3-6 'baths' of Amitraz over 6-12 weeks.) I highly recommend you go online and order the book "Skin Diseases of Dogs and Cats" by Dr. Stephen Mehlman, DVM. It will aid your greatly in helping the dogs.

Antibiotics are also cheap. A dog with mild infection, some scabs, red skin may need antibiotics for a week or two. **Cephalexin** (a preferred antibiotic for skin infections) 500 mg tablets or pills cost about 10 cents each. The dose is approximate 25mg/kg (25 milligrams of medicine per kilogram dog's body weight), by mouth (PO, 'Per Oss' in doctor language means 'by mouth'), twice a day ('BID' twice per day). So a 10kg dog would need 25mg x 10kg= 250 mg in the morning and 250 mg at night---half a 500 mg pill in A.M and the other half at night. The antibiotic **Amoxicillin** is much cheaper and I use it with great success when I don't have Cephalexin.

Often, however, I cannot give the medicine twice a day, and the dog only gets it once per day. If I can only give it once per day, then I give a slightly higher dose. But it is not a good idea to only give once per day. Still, I am often 'forced' to do it and I have cured many dogs with only once-daily dosing. I often try and enlist the help of those folks the dog lives with—at the many Buddhist temples in Thailand is where many stray dogs end up, so I try and find a monk who expresses an interest in helping the dogs. I then teach him how to care for the dogs and after I have watched him do everything I do, making sure he understands dosages, etc—then I will give him the necessary medicines so he can do it himself.

But just be sure the person offering to help is truly motivated, otherwise you're just wasting your medicine. And you must ask him to repeat back to you the correct dose of Ivermectin. Your telling him and his nodding his head is not enough! Make absolutely sure he understands that "more is not better" with Ivermectin. Too much can sicken or kill a dog! Usually it is better for you to administer the meds if at all possible and not leave a bunch of Ivermectin with someone who may give too much and harm the dog.

So a 10 kg dog would need a few cents worth of **Cephalexin or amoxicillin** per day. It is always a good idea to give antibiotics until the infection clears up and then keep giving it for one or two more weeks. Said another way, give the antibiotics one or two weeks past clinical

cure. But, like I said, it isn't often possible for you to give antibiotics for this long, so give what you can for as long as you can. I've seen dogs cured with far less than the recommended treatment.

The main bugs you will be battling are:
mites
fleas
ticks
Bacteria-- (including bacteria from mites (mange) and mite feces & eggs deposited under the skin)
Yeast (fungus)
Intestinal Worms

The medicines you need for this are (in a loose order of importance and frequency of use):

**Ivermectin** for Mites 10 cents per cc

**Worm pills** (often contain the three ingredients Praziquantel, Pyrantel, Febentel) Cost: about 50 cents to deworm a 10 kg dog and a dollar to de-worm a 20 kg dog. Note that the mite medicine, Ivermectin, kills many different kinds of worms. But there are some it won't kill that the Praziquantel etc will kill. Because I give Ivermectin to practically every dog I deal with I know that many of the worm species will be killed. In fact, if you only have time and money to do two things for the dog make those two things: 1) oral **Ivermectin** and 2) oral pills for **worms**. Those two things will solve most of the dog's problems! If you also pour on the back of his neck some flea medicine, then you have done the three most important things for that dog: 1) oral ivermectin 2) oral worm pills and 3) flea/tick medicine poured on the neck.

**Antibiotics** for Bacteria (**Cephalexin** is very good antibiotic) 12 cents per 500 mg. **Amoxicillin** costs less than this but cephalexin is superior, so use it when you can.

**flea/tick medicine** (Fipronil, Permethrin, Methoprene) 2cc for 20-40kg dog applied to neck area kills fleas/ticks for a month or two. Cost about $1.50 This is probably your most expensive medicine but it is a very important one, especially for a dog that is sick since those dogs need every bit of help they can get. Your budget may not be able to afford to put flea medicine on all the dogs you see every month. Use your judgment and budget as a guide as to how many dogs you can treat with the pour-on-shoulder-blades flea/tick medicine. Note that the dogs who sleep **on piles of sand** rarely have fleas. Encouraging the monks to 'install' a couple of piles of sand which will allow the dogs to sleep on them and thereby greatly reduce flea infestations. You do not need to cover your entire ground with a layer of sand. You just need several piles of sand on the property. Flea/tick medicine is expensive so encourage dog owners to try the pile of sand.

**Chlorpheneramine**, an antihistamine that is very inexpensive. For itching. For example, if I am treating a dog with mange, red skin, loss of hair **I 'automatically give**:
1) Ivermectin oral
2) worm pills oral
3) prednisolone oral and
4) chlorpheneramine (antihistamine) oral and
5) cephalexin or amoxicillin oral
6)flea/tick medicine poured on shoulder blades and
7) food.

**prednisolone** 2mg/kg/day;(or 0.22 mg/kg/day for dexamethasone). **Prednisolone** a steroid hormone—will help lower inflammation of bowel and increase their appetite if they have diarrhea. A dog that is really sick, or wounded, or who has been in an accident needs steroids! Dr. Jeffries, MD wrote the great book, "The Safe Uses of Cortisol" and he demonstrates how low or moderate doses of prednisolone or dexamethasone (or hydrocortisone) will greatly speed recovery in a human patient who is under great stress (**infection, itching, inflamed skin, accident,** etc). This goes for dogs, too. Except do NOT give these steroid meds to a dog with Demodex mange. Fortunately, most dogs you see will

not have demodex but will have sarcoptes mange instead. Most importantly: always give (unless they have demodex) prednisolone (steroiod hormone) along with chlorpheneramine (antihistamine) to any dog that has reddened inflamed skin who is itching a lot or to a dog with maggots---you must stop them scratching the wound.

In fact, this itching and scratching is usually a hallmark of Sarcoptes mange where you CAN and should use prednisolone. If you see a hairless dog who is NOT itching then it is likely he has Demodex mange where you do NOT want to use prednisolone. In a Demodex case you want to use oral Ivermectin daily for two months, plus antibiotics, plus good food, oral worm medicine, flea medicine topically, baths with special shampoos and possibly lime sulphur dip/spray (smells like rotten eggs). Or, instead of ivermectin daily for Demodex mange, you can dip them weekly with Amitraz (see elsewhere).

**Ketoconazole** for yeast infections. Cost very little in developing countries.

**Metronidazole** Flagyl (metronidazole) for stopping diarrhea. Before giving metronizaole you can try yogurt or acidophilus pills or probiotic pills— which can greatly help with diarrhea in both humans & dogs. Many dogs (and people, too) can develop diarrhea from dirty water. Metronidazole: 10-20 mg/kg PO BID or TID. In Thailand, you can buy 4 pills of Metronidazole 200 mg for one U.S. cent. PLUS also give prednisolone for diarrhea in addition to metronidazole, yogurt, acidophilus etc)

**Vincristine.** For genital tumors. (Vincristine comes from the periwinkle plant). Let the vet administer this one, as it needs to be done IV (unless you are confident you can do it—I learned by watching my vet). Occasionally you will see a female dog with a swollen, hard vagina that can be oozing blood or have red cauliflower-like tumors visible in the opening or a male dog with a red, crusty, bumpy tumor on its penis. This condition can be Transmissible Venereal Tumor, TVT. It is not bacterial, but cancerous. So antibiotics will not work. Instead, the dog needs a medicine called Vincristine administered IV— once per week for 3-6 weeks. Because these tumors can be transmitted from one dog to another by sniffing, touch, sex, it is important to treat them, especially since they can be very painful. A 10 kg dog will need 0.3 cc of Vincristine IV (zero point three, i.e. a third of a cc/ml). A one cc bottle of Vincristine in Thailand costs $10 (U.S.) so if the dog weighs 10 kg that one bottle may be enough to fix them since she/he would need 1/3 (.3 cc) of that bottle per week for 3 weeks (or longer, but usually 3 weeks will do the trick.) The most suffering I ever saw on a dog in Thailand was TVT on the penis such that he was in constant, terrible pain—howling in agony—and could not sleep. A few visits to the vet and IV vincristine fixed that—but it wasn't easy getting him to the vet! He didn't want to be 'caught' so we had to feed him acepromazine hidden in sausages to knock him out. The bus drivers at the bus station where he lived helped me catch him.

But if you don't have experience putting medicine into a dog's vein (IV) then you need to take that dog to the vet and have the vet do it. It can be difficult to do if you don't have experience injecting into veins so this job is best left to the vet. Plus the vet has an assistant to hold dog. Also noteworthy is Vincristine—a potent chemotherapy drug—must be handled with extreme caution, gloves and glasses worn!, because if the medicine contacts your skin or eyes it can cause a big sore.

Most stray dogs I treat just get Ivermectin orally one dose orally every two weeks for a total of two doses plus oral worm pills one time and flea/tick pour-on liquid. Ivermectin kills most mites and many worms. Incidentally, Ivermectin is given to humans in the billions of doses in countries which have debilitating worm infestations that cause river blindness—check out 'river blindness' on youtube here: http://www.youtube.com/watch?v=8IaJ9NsC3tA Ivermectin saves countless lives and suffering. What a great medicine! It was discovered in a soil bacteria in 1981.

And if the dogs have infections then I give them Antibiotics (Cephalexin is preferable but amoxicillin works and is less expensive).

**Ivermectin oral** for mites; pour-on-shoulders liquid for **flea and tick control**; and **oral worm pills** should be at the heart of your program.

**fleas** can cause a great deal of suffering and harm especially in dogs that are allergic to them. If you only count 20 fleas on a dog be assured that the dog really has perhaps 500 or 1,000 fleas living off of it. Most of the dog's fleas are not on the dog when you look. They only hop on when they are hungry, so a dog may be getting bitten as many as hundreds of times per day by hundreds of fleas. Some dogs are much more sensitive to flea bites than other dogs and just one or two bites can cause a problem.

Many pet owners make the mistake of thinking their dog has no fleas if they see no fleas on the dog. But often the dog will groom itself (eat the fleas) so well that you won't see any fleas at all. Eating fleas is yet another way a dog acquires worms. The 2 cc of flea medicine costs one dollar in Thailand compared to multiple dollars in the U.S. One application on the skin of the neck at the back of the head—after you've pulled hair back—or even cut it so you really expose the skin and the hair shafts don't act like a 'sponge' and soak up the expensive medicine--so you can pour it directly on skin—will kill fleas and ticks for a month or two. (Wear surgical gloves when applying this poison.) And it will even help other dogs that live around the dog with flea medicine since that dog will now be killing many fleas and ticks.

The other item you will want in your backpack is some **surgical gloves**. I personally like to touch my dog friends with my bare hands but this can cause problems for you, for your human friends (whom you subsequently touch) and other dogs you touch. It is a good idea to wear surgical gloves and keep your fingernails extremely short, wash with soap and water during and after your day's outing, and change your clothes before you sit on your couch lay on your bed, etc. Surgical gloves are a good idea for many reasons, not the least of which is remembering that ***Rabies is carried in the saliva of a rabid dog***, so it is best to avoid the saliva of dogs. If you have an open cut or wound on your hand then wearing gloves is absolutely essential. But, in my years of treating dogs in Thailand, my un-gloved hands were exposed to dog saliva (unless I had a cut then I did for sure wear gloves).

I don't recommend going without gloves (but I did it many times). But I do recommend going to the local hospital and get the vaccinations for rabies even if you don't think you've been exposed. Put a cold pack on injection site immediately after injection for two hours, to reduce harmful brain inflammation, and also take 5,000 IU Vitamin D3 orally along with 2 magnesium tablets per day, every day; this also powerfully protects against the side-effects of the vaccination and protects against many other things as well; this advice comes from Dr Russell Blaylock, MD (neurosurgeon).

There is a lot of **Rabies** in third world countries. The vaccinations are cheap if you don't go to a tourist-trap clinic. At a hospital maybe 5 or ten dollars per shot. And, most important, if you are bitten, wash the wound *immediately*. Wash it for 5 minutes. Wash it with soap & water, iodine, then more soap and water, then iodine, then some hydrogen peroxide, then alcohol, then more soap and water, scrub well, more soap and water---5 minutes—then more hydrogen peroxide and betadine (iodine)) See other info on rabies elsewhere here. If the dog lives for 10 or so more days, then it doesn't have rabies. But if you're not sure about the dog's whereabouts, and cannot determine if the dog lives for 10 more days, then you need to get two booster rabies shots as long as you've had the first set of shots already. If you haven't had first set of shots then you must get those four shots. See below for details.

Many of the dogs I treat belong to the poor Thais (and some middle-class) Thais in my small town. I have an info sheet explaining that I only charge them for the cost of the medicine, and not for my time, and that I buy the medicine at a big discount and pass the discount on to them. The info sheet explains—in Thai language—that I make no profit. And it gives them an idea of how much it will cost to treat a dog. About 20 cents for mild case of Sarcoptes mange (mites). If dog has mild infection then he needs Cephalexin 500 mg—for example—every day for two weeks and this will cost 5 cents a day x 14 days= 70 cents (or if amoxicillin then much cheaper). And the info sheet explains about the 75 cents of flea medicine for a 10 kg dog ($1.50 for 20kg and up) that will kill fleas for two months.

Sometimes if the people are really poor—and the man of the house does not drink alcohol, that is, throw the family's money away—then I will treat their dog for free. But I have a policy of saying no to people who ask me to treat their dog for free—or give them free dog food—if I see the guys sitting around drinking whiskey. I tell them that to fix their dog will cost less than a bottle of whiskey.

Sometimes Thais will come up to me wanting a handful of dog food to take home to their dog. I always say 'no' because once you open this floodgate then everyone will expect free food. I tell them that—and my printed 'information sheet explains—that if they feed their dog some rice with a little meat, fish, pork, chicken and vegetable oil—that that is not only better food than my dry dog food, but cheaper, too. Which is true, rice and chicken is cheaper than dry dog food from a sack. So if your budget doesn't allow buying sacks of dry dog food, you can always cook up a bunch of rice and throw some pieces of uncooked chicken in the hot rice and add some vegetable oil and salt. The hot rice will partially cook the chicken, especially the outside layer that tends to have the bacteria. There is a growing school of thought that dogs need raw meat to be their strongest. I know the dogs I have owned who have eaten a diet of rice, raw (or lightly cooked but still bloody) meat, vegetables, have been far superior athletically and energy-wise than dogs fed only dry dog food. (Pork must be thoroughly cooked, however, no pink or blood).

I know the pet food industry has invested a lot of propaganda about the 'dangers' of feeding 'table scraps.' But it is just that, propaganda. Somehow they have turned the term 'leftover food' into the menacing sounding term 'scraps.' Hey, leftovers are good enough for me to eat and I assure you they are good enough for dogs to eat. Dry dog food is mostly soy and corn anyway! Don't tell me soy and corn is better for a dog than real meat and rice! But I do use dry dog food—hundreds of kilos of it—because it is convenient and because it is often much higher quality food than some of these starving dogs are getting. There are, however, some people foods dogs should not eat: chocolate, grapes, raisans, onions (in excess), garlic (in excess), macadamia nuts, xylitol (sugar found in candies, ice cream, etc).

Anyway, when I come across an especially run-down dog—say, one with no hair, and has scabs and perhaps 'elephant skin' (skin thickened through years of mites, bacterial, fungal and other damage)—I will supplement the dry food I give him with fresh meat, cooked or uncooked. If the dog is extremely sick and seems to not to want to eat I always rely on the reliable homemade chicken soup with salt and rice. (Do not let anyone cook it with MSG (monosodium glutamate) , "pon chu rhot" or "roht dee" in Thai language.) Simple chicken soup like this--salt, water, chicken, rice--can revive almost any animal. If you can't put rice in the soup, then be sure and add a little table sugar because a truly sick animal is probably very dehydrated and in order to get the salt into the body sugar must be present in the stomach at the same time--the 'sodium-glucose co-transport system'. This salt-sugar **Oral Rehydration Therapy (ORT)** applies to dehydrated humans, too, especially if they have diarrhea). And if the dog seems depressed and lethargic or has any other symptoms of poisoning then I open 20 or more capsules of activated charcoal and add that to the ORT. Activated charcoal is THE number one protocol in emergency departments worldwide for to 'soak up' and bind most poisonings and it is non-toxic in any amount. **When in doubt, give the dog activated charcoal with the ORT**. (but only to fully conscious dogs)!

And I will give vitamins, too, whatever I happen to have available: a multi-vitamin, extra D, C, E, A, etc, etc. And I always supplement any food I give them with fresh vegetable oil, which I usually poor and mix into the sack of dry dog food I will carry before I leave the house. This veggie oil on the dry dog food does two things: it provides a good quality fat source (very important) and it gives them much needed calories. Plus they love it. Only use a tablespoon per 4 or 5 cups. Too much fat can hurt a dog.

If you have bathed the dog, then wait three days to put the flea/tick medicine on.

If you can find a vet to help you neuter the dogs so they cannot make puppies, that would be great. Countries like Thailand don't have a program to neuter dogs, so you cannot expect the government to help you here. Their philosophy seems to be 'mai pen rai' which loosely translated means 'let it be', 'never mind' 'don't worry about it'. And when you first come to a

country like Thailand and see all the suffering dogs roaming about you might tend to express, first, pity, and then, second, criticism, of a country that let's this happen. But consider that these same dogs would be quickly 'euthanized' (killed) in America. Here in Thailand, at least they have a chance at a life. In fact, you could argue that one of these rundown dogs that is freely roaming about with his friends has a better life than a pampered, well-fed dog left alone all day long either in a house or yard.

At any rate, neutering the dogs is a great idea. And if you can afford it, then you can pay a vet to do as many as your budget will allow. If you're really gung-ho, you could probably learn to neuter male dogs on your own—get your vet to teach you.

There is an injection, a hormone, that is given to prevent pregnancy for three months, but there are complications from the medicine itself, and also from people using 'used' dirty needles. This can cause serious infections (pyometra) in female dogs. So do not use this method to prevent pregnancy.

## Meds, Supplies, Techniques

The basics for every dog are:

**Ivermectin**, oral.

**Worm pills** eaten in cheese, sausages or given by hand in back of mouth (see directions).

**Flea/tick liquid** poured on shoulder blades—if long hair, cut the hair in a one inch circle to expose the skin then pour the medicine on—otherwise the hair just wicks the medicine away from the skin.

Additional meds that may be necessary:

For those dogs with really bad skin then they need a bath preferably with special dog shampoo containing some or all of the following: coal tar, sulphur, salicylic acid, benzoyal peroxide. Shampoos like this are available in Thailand. However, if you don't have access to this type shampoo then any soap will do. You can buy tubes of benzoyal peroxide and find dog shampoos with the other ingredients mentioned above. When bathing a dog I will mix a couple kinds of shampoos with a 'squirt' of benzoyal peroxide. It is important to let the shampoo stay on the dog for 10 minutes. Be sure and rub the shampoo mixture into the coat and skin while you are waiting the 10 minutes. Before you start the bath put a collar and leash on the dog and put your arm through the loop on the other end of the leash—to prevent an escape while covered in suds.

Oral antibiotics for wounds and sores or if a dog seems really run down (they may have internal infection—so go ahead and treat for it).

Antibiotic ointment applied directly to wound (topical antibiotics)

Iodine liquid for putting on wounds.

Chlorpheneramine tablets (antihistamine) for dogs itching terribly.

prednisolone tablets for dogs itching terribly and for dogs who've been in accident or are very, very run down.

**Print out the "Dosages Chart"** and carry it with you so you get the amounts right.

A word on the 1cc syringes that you need to carry. A 1cc syringe is just that, a syringe with a MAXIMUM of 1cc. It is very skinny, not much more in width than a thick pencil lead. Using a 1cc syringe to administer Ivermectin is essential *so you don't make mistakes* and give too much Ivermectin as you might if you were using a 3cc syringe.

I'll repeat that: **only use a 1 cc syringe to administer oral Ivermectin**. (You can use your 3cc syringes for squirting milk in mouths to help them swallow whatever pill you've shoved in the back of their tongue—see below for 'pilling' instructions.

I carry a back pack of items to treat dogs in the field—at the Buddhist temples (Wats) or at the homes of dog owners.

**Here is what is in my backpack.**

A couple of Bottles of **water** for human drinking. Don't forget to stay hydrated yourself especially in hot, humid climates. Don't' wait till you feel thirsty, but take frequent sips instead. Eat plenty of salt, preferably sea salt. Drinking a lot of water without salt is dangerous. Even people with hypertension can have up to a half teaspoon of salt a day. Without high blood pressure, you can have more than that! (see http://drhedberg.com/2011/02/24/the-thyroid-adrenal-pancreas-axis/)

**Plastic syringes**, several of **1 cc**—without needles. And several of **3 cc** size for administering medicine. One 60 cc syringe in case you have a case of dog poisoning where you need to put the contents of a lot of activated charcoal capsules into some liquid to squirt in the back of their mouths

.

**Ivermectin** for mites/mange & worms a 50 ml bottle or a 100 ml bottle. Stick a #18 needle in the rubber stopper and TAPE the NEEDLE to the Bottle so the needle won't come out. Carry this in a clean plastic bottle (for example, peanut butter) with top so the needle won't get banged around in your backpack. I leave needle stuck there, never taking it out—you've taped it there, remember). I then just take my 1 cc syringe and withdraw the correct dosage always leaving the needle in the bottle. Using the plastic 1cc syringe *without* a needle, I then squirt the Ivermectin into the back of the mouth of the dog, or I squirt it into milk and let the dog drink it. Ivermectin tastes terrible but when squirted into milk or chicken soup, dog will eat it. (I've eaten it myself in juice as a human de-worming protocol—it was easy to swallow this way.)

3cc syringes for squirting milk into dog's mouth after I've stuck a pill there, to help them swallow.

Sausages for 'pilling' those dogs I know won't approach me—you can buy as you're out and about but bring them with you if you know you'll need them.

Spare #18 needles in case I lose or dirty the one that is taped to the ivermectin bottle.

**cephalexin** (antibiotic) bottle of 500 mg capsules.

**amoxicillin** (antibiotic) capsules because it is a really cheap antibiotic that works in most situations.

**prednisolone**, (steroid hormone) 5mg tablets.for inflammation, itching, accidents and illness.

**antihistimine** tablets for itching (for ex; Chlorpheneramine). Every itchy scratch dog gets them.

**ketoconazole** for fungal infections 200 mg tablets. (I rarely need these).

**Antibiotic cream** for putting on wounds/scabs on dogs.

**Iodine** (liquid) for pouring on human wounds after washing them but also certainly for dog wounds since iodine will kill bacteria, fungus and viruses. Pour it on wound with hydrogen peroxide: "brown and bubbly" per Dr Blaylock, MD

**flea/tick medicine** many little pre-measured bottles. Wear surgical gloves when applying. And wear surgical gloves when sticking your hand in a dog's mouth. If you end up

with a large bottle instead of pre-measured small bottles then you have to use a syringe to withdraw via needle this insecticide from the bottle and squirt on the dog's back. Make sure you keep this syringe separate from your Ivermectin needle! Much better to buy this medicine in premeasured small bottles, or put the medicine in your own empty little 1 cc bottles--rather than carry a large bottle of insecticide around in your backpack: too many things can go wrong with carrying a large bottle with you!

**acepromazine,** 'knock-out' tablets, 3 or 4 or more of which will 'immobalize' a dog that is seriously ill and won't let you approach it. Or for a dog with maggots in an open wound that you need to pick those maggots out for an hour or more and you need to have the dog hold still—unless it's a golden retriever or another 'calm' dog--then he may hold still without meds! Put the 'Ace' in sausage and toss it to dog—he will become uncoordinated and 'paralyzed' pretty quickly. For a big dog you may have to use a higher dose. When 'asleep' put the leash on him and your arm. Tie a ribbon or rope around his mouth/snout to absolutely prevent him from 'waking up' and biting you.

**Isopropyl alcohol** (for pouring on bite of your own hand if you are bitten—after you wash your hand with soap and water.)

**Hydrogen peroxide for pouring on wounds with Iodine** also for pouring on human wounds but also for making a dog vomit if he's recently eaten poison (see section on poisoning). Only rarely should you try and induce vomiting, for example, when you know the dog has minutes before swallowed poison. In most poisoning cases it is now standard procedure to NOT induce vomiting for fear of patient aspirating into lungs. Instead give activated charcoal as soon as possible. But if a grave emergency, for example dog has just swallowed a massive amount of poison or pills, then stick a straw down his throat and use your mouth filled with hydrogen peroxide to squirt the hydrogen peroxide down the straw into the back of his throat—he will vomit almost instantly.

**Iodine**, for pouring on wounds with hydrogen peroxide.

**activated charcoal** capsules or tablets. For giving to animal if it has eaten poison **or even if you just think he has eaten poison**. Great for humans,too: either for accidental poisoning or for when you eat contaminated food. Should be in every emergency kit for dogs or humans. The first sign of some poisonings is lethargy, depression and dog doesn't want to eat. (Main sign in humans is NOT vomiting and diarrhea, but rather malaise and headache). **If you have a dog that doesn't want to eat or looks depressed, give them activated charcoal at once!** A good way is open capsules into some milk and take a larger syringe without needle and squirt the milk/charcoal mixture into back of dogs mouth if he won't drink. If dog seems in a 'coma' then go home make some chicken soup with salt & sugar and hurry back, then empty charcoal in chicken soup and squirt some on tongue. Often dog will wake up to drink this life-saving mixture. Use many capsules of charcoal. Do not try to make dog vomit. It is now standard emergency room treatment to give charcoal only without inducing vomiting, as vomiting can cause a lot of problems. . But if a grave emergency, for example dog has just swallowed a massive amount of poison or pills—iron pills for example-- and dog is perfectly conscious then stick a straw down his throat and use your mouth filled with hydrogen peroxide to squirt the hydrogen peroxide down the straw into the back of his throat—he will vomit almost instantly.

**scissors**. For cutting hair, dead skin etc. Good idea to have several kinds. Best to buy from a doctor who can order you foreign made high-quality, as good local steel and construction is rare. But whatever you can get is better than nothing.

**tweezers** for removing ticks. Very important to not remove ticks with your fingers because this can squeeze tick stomach contents into animal! People can get diseases from ticks, too, so that is another reason NEVER to squeeze ticks with fingers, or break ticks with fingers, etc. Use tweezers and grab tick at head area—do not grab body of tick with tweezers—only grab the head area, and then pull. (place each tick in a bowl of water with a little bleach in it).

**Cotton swabs** ('Q-tips') for cleaning ears of pus, black goo, etc. But you must be very careful and not go too deep when cleaning. Really best for cleaning visible gunk in outer ear, not for 'probing' into ear canal. The ears have a natural cleaning mechanism that can be harmed by using cotton swabs. Many people actually create bacterial and fungal infections in themselves through the use of cotton swabs in their ears. Yet when I find a dog with a lot of 'gunk' in the ears, cotton swabs are great for getting the visible stuff in the outer portion of the ear out. Sometimes I will put a drop of Ivermectin on cotton swab and then clean dogs ear with that which will help to kill ear mites. A little vegetable oil (olive oil is best) on a cotton bud helps, too.

**surgical gloves**. Best to wear gloves at all times—I confess I don't always do this!—and keep your fingernails cut very short. Take your clothes off when you come home from your 'rounds' and throw them in wash, and take a shower.

**liquid milk** that needs no refrigeration before opening. This UHT (Ultra High Temperature pasteurization) milk is available in little boxes and is so extremely useful when giving medicines to shy dogs who won't let you put meds directly in their mouths. Just pour the meds in a little bit of milk, set the bowl down, step back, and the dog will approach the bowl and drink. I carry at least 6 boxes with me on my outings, sometimes more. One box can be used for 3 or 4 dogs. You only need a little to mix with the meds. But you can always buy it at every little corner shop in Thailand. Do not use soymilk. It's a low-quality food, and dogs don't like it anyway. Carry screw top bottle to place used milk in after opening.

**Dry dog food** that I've poured some vegetable oil on before leaving home. If I'm driving our little truck I carry 20 kg.

**Plastic or metal bowl** this is a must-have. Essential for administering Ivermectin, antibiotics and other meds for dogs that won't let you put the meds in their mouths. Add a little UHT Milk (no refrigeration necessary until opened) from among the boxes of this milk that you should carry.

**Leash and choke collar**. The leash must have a loop in the end so you can insert your arm through it so that you have both hands free while bathing dog, etc.

**Empty plastic bottle**
with screw top lids, such as 1 lb peanut butter plastic bottles. You can use these to pour excess milk into after you've opened and partially used box of milk. So you can save some of the box of milk for the next dog. You can also use one to keep your bottle of Ivermectin in that has the needle taped securely in the stopper of the Ivermectin bottle. Carrying your Ivermectin bottle inside a plastic bottle with lid will ensure the taped-needle doesn't get dislodged.

Note that **Ivermectin** is the active ingredient in the monthly heartworm prevention pills that people give their dogs. The amount of ivermectin for monthly heartworm protection is hundreds of times smaller than you will be giving for killing mites and worms and only costs a fraction of a penny (but people don't know this so they fork over many dozens of dollars for yearly treatment.

So if you give all the dogs you care for monthly oral squirts of Ivemectin you will be preventing heartworm, as well as killing mites and worms. Ivermectin should NEVER be given to Collies, English and Shetland sheepdogs collie mixes, etc because it can be toxic to those breeds. (Some of these dogs can in fact get Ivermectin but they must be first tested by a vet). In Thailand, I never saw a collie or sheepdog so it wasn't a problem. 99.9% of the dogs I see in Thailand are 'mutts', cross breeds. The only result I've seen from administering Ivermectin is happy, healthy dogs free of mites and worms for the first time in their lives.

I always carry 4 or 5 kg of dry dog food in my back pack if I am walking or on my cycle, or 20 kg if in my truck. I use it to throw on the ground (cement, or a clean area—so dog food doesn't get covered in dirt) like chicken feed when I am at a Wat (Buddhist temple). This way I make friends with the dogs, they come near me so I can treat them, etc. The dog food is also

a source of protein which they don't get much of, being fed the same high-white rice, low protein diet that most of the people get here. I want the dogs I treat to get better and, for me, spending the extra money to feed them once or twice a week or more is worth it. Note on administering dog food to several or more dogs: Put the small piles of dog food several or more meters apart so as to discourage fighting over one pile of dog food.

With really **run-down dogs**—dogs with open scabs, no or little hair, emaciated—that "full care" is called for, that is, treating for 1) mites, 2)fleas/ticks, 3)worms 4) bacterial infections 4) fungal infections (maybe) 5) and feeding them until they get better. Perhaps the main reason they got 'rundown' (sick) in the first place is because of inadequate nutrition. In many situations you don't have the time or the money to take a really sick dog to the vet. If his skin is really messed up, scaly, hairless, oozing, smelly then you may need to use the 'shotgun approach'. You have a couple of choices on how to treat. The first is to do Ivermectin, Worm pills, oral antibiotics and see if he improves and if he doesn't then add anti-fungal meds (ketoconazole) to the mix. Or, better yet, take pictures of skin infection and show it to your vet. If he says "fungus" THEN you can give the **Ketoconazole**.

Giving a dog like this several **baths with special shampoos** (see elsewhere) over a period of several weeks will really help his progress. Feeding him high quality food is really important. If he will eat the dry food that has vegetable oil poured on it, fine. But meats and chicken soup with a little salt & rice (or sugar if you have no rice) will heal him faster. If a dog is really sick then you need to make your own **chicken soup** but not cook the chicken too much. Just boil some water, throw in some cut-in-fine-pieces chicken, add some salt and remove from stove quickly and then add a little rice to it, or if no rice then add a bit of sugar. This semi-bloody soup will work wonders on your sick dog, who is probably not only starving but dehydrated as well. (It is best to leave chicken and beef a little bloody but pork must be cooked thoroughly).

If you don't add rice then add some sugar because the salt, sugar combination is necessary to redress dehydration (go to rehydrate.org to learn more if you want). Make it no more salty than tears.

Dogs are happy when they are eating—especially if they are run-down, sick dogs—and I like being around happy dogs. Happy dogs make me happy. So I feed many of the dogs I care for—not just the really rundown ones-- a couple times a week, often with a lot more than just 3 or 4 kg (that is not enough for 20 dogs at one temple). Feeding them this way helps them to improve much more rapidly than they otherwise would with medicine alone. And pouring vegetable oil on the dry dog food gives them essential fat that may be lacking in the dry dog food since it has been sitting on shelf for perhaps a long time. Vegetable oil on their food will help their skin heal faster. Plus the vegetable oil gives the dogs much needed calories that they can store as fat and use later when aren't fed so much. Plus, dogs love dry dog food with fresh vegetable oil on it. Don't put too much oil on the dry dog food. A teaspoon or so per dog will do the trick---or just evenly pour a bunch on the 4 or 5 kg bag you carry with you and shake.

**Ivermectin: How to Administer**

If there are 20 dogs at a temple but only 3 of them need medicine (usually just ivermectin and antibiotics) what do you do if those 3 dogs won't let you get close to them to squirt Ivermectin in their mouths, or push the antibiotic pills down their mouths? If you put the medicine in a bowl of milk all 20 dogs will try and drink that milk, and 3 dogs that need the medicine will never get it.

Here's what you do: Get your ivermecin syringe (without needle!) and your antibiotic capsules ready. Let's say the 3 dogs weight 10 kg each so you need to give 10 kg x .3mg/kg = 3mg of Ivermectin or 3/10ths of 1 cc syringe to each of 3 dogs = 0.9 cc (or approx 1cc) of Ivermectin for three dogs.

(Note that elsewhere in this manual I recommend a higher dose of Ivermectin for dogs with Demodex mange, )0.5 cc/kg, but here, where you're giving to multiple dogs with probably Sarcoptes mange, it is better to use 0.3mg/kg).

Dip your plastic bowl in the dry dog food filling it up with food. Pour some milk on the dry dog food. Scatter this 'milk soaked dry dog food far enough around you so all the dogs are distracted by it. Now quickly squirt your ivermectin in empty bowl, empty your Cephalexin capsules into same bowl, and then pour some milk in bowl, stirring it to dissolve medicine evenly and squirt in correct amount of Ivermectin. Now set bowl down near animals who need medicine. If all three of them can somehow drink from it at same time, great. More likely is one will start drinking from it. Pick the bowl up when he has drunk 30% of it. And give the rest in same way to other 2 dogs, holding your hand out in the 'stop' position to any other dogs who try to drink the milk/medicine so he stays put. **Do not let one 10kg dog drink 1 cc of Ivermectin! Learn how to dose dogs correctly BEFORE you start giving Ivermectin! Too much can and will harm the dog.**

There are variations on this method which you will figure out yourself. Fortunately, most dogs—after they get to know you and like you (because you bring them vegetable coated dry dog food!) will let you squirt the Ivermectin in the back of their mouths before you feed them. Their 'reward' for letting you squirt ivermectin and 'pill' them with antibiotics is to get to eat dry dog food or drink a little milk from your bowl. If the dog will let you get near it but won't let you administer medicine orally with your hands then you can still put medicine in bowl of milk and let that dog drink it while you hold other dogs off.

Another trick is to withdraw correct amount of Ivermectin for the weight of the dog and then use a second larger syringe with milk to squirt in their mouth immediately after you've squirted Ivermectin in. They love this and will come back for more the next time you visit them. "Chasing" the bitter taste of Ivemectin with milk always works.

It is a good idea to learn to **'pill' a dog**. By 'pill a dog' I mean putting a tablet or capsule of medicine far enough in the back of the dogs mouth so he has no choice but to swallow it.

There is a right way and a wrong way to do this. The wrong way can get you a very deep bite on your thumb, all done accidentally by the dog. The correct way is safe and easy, once you learn how to do it.

Before you try pilling a dog it is a good idea for the dog to like you which he will after you've fed him some dry dog food. You want the dog to feel comfortable with your touching him before you try and shove a pill down his throat. So, I always pet them and scratch gently the inside of their ears, etc. Then I pill them. But if the dog growls, or aggressively resists the pilling then I will not attempt it. I will put the medicine in a little milk in a bowl and let them drink it.

Before you pill the dog get your 5 cc or 10cc syringe full of water or milk. Because after you've put the pill in the dogs mouth you can squirt some milk or water into his mouth to make sure he swallows the pill. (If you use milk you will be giving the dog more reason to 'like' you and let you pill him on subsequent days—positive reinforcement.)

Squirting milk or water in his mouth after you've shoved the pill far back in almost guarantees he will swallow it as long as you've shoved the pill far back along his tongue toward the back of his throat.

To pill a dog: If you're right handed then do the following. Hold the pill between your right thumb and forefinger. Take your left hand and pet the top of the dogs head. Still using your left hand use your fingers to gently hold the top of the dogs mouth (snout) while at the same time you insert the pill in the dogs mouth with your two fingers of your right hand but as soon as you enter his mouth you then use only your thumb to push the pill far back along his tongue to far back in his throat while using your left hand to hold the top of his mouth open. You do not need to 'force' the dog to do this. Using gentle pressure with your left hand on top of his mouth (snout) is all that is needed, while you softly talk to him. Do not squeeze the dog's snout hard, it will just irritate him.

To do this without getting bitten accidentally by the dog you must, I repeat must, push the pill along the Length of his tongue, keeping your thumb parallel to his tongue and your thumb with pill is pushing Straight Back along his tongue. This way if he closes his mouth the only teeth that will touch your thumb will be his front teeth, and the front teeth will have little force or power behind them. If, however, you make the mistake of sticking your thumb in his mouth at right angles to his teeth then your thumb may very well end up between his back teeth—and if (when!) those teeth close down on your thumb you will be accidentally but very painfully bitten because the force exerted between the rear teeth of a dog is awesome. After you've made the mistake only one time of sticking your thumb at right angles underneath his rear teeth, you will probably never make that mistake again.

Look on youtube for short videos on 'how to pill a dog'.

Once you've pilled dogs a dozen or so times the motions will become second nature and you can pill dogs one after another easily.

For those dogs you don't want to bother 'pilling' by hand—or for those dogs who absolutely won't let you near them--, there is always the medicine in the milk routine. But learning how to 'pill' those dogs you can will save you a lot of milk money.

**Another trick for giving medicine**

And there is yet another way if the dog you are treating won't get close enough to drink your milk. You buy some sausages/hot dogs and tear off a piece of it and shove the pill in it and throw the whole thing out to the dog. Works like a charm. (But doesn't really work well for Ivermectin, a liquid). I carry my sausages and other perishables in a small insulated collapsible lunch box with a blue ice pack I've frozen overnight.

**Two kinds of Mites (mange)**

There are two kinds of mange/mites. Sarcoptes and Demodex. Sarcoptes is the kind you will see most. It produces the itching and red skin and patches of hair falling out. You only need to give two doses of Ivermectin spaced two weeks apart to fix Sarcoptes Mange/Mites.

But if the dog doesn't get better from these two doses, then he probably has Demodex mange which will require Ivermectin every day for 6 weeks or longer. But there is an alternative to giving Ivermectin every day. You give the dog a dip in Amitraz ('Mitoban' in Thailand, Taktic in the U.S.). Follow directions, mixing a very small amount of amitraz in the required amount of water (liters or a gallon) and, using kitchen gloves that cover your arms, you pour the liquid on the dog and use a sponge to sponge it on the hard to reach places. Pour some in the cut-out bottom of a plastic bottle and put each of the dog's feet in it for a several minutes: the mites hide out in the feet so killing them in their hideout is important. If you do this once per week for 6 weeks, or even once per two weeks for a total of three 'doses', you will cure most mange. This is a bit of work but it is often preferable than trying to return to that one dog every single day for two months to give him Ivermectin.

And you need to give antibiotics everyday to a dog with no hair or with inflamed skin and/or sores.

(but you don't have to give Ivermectin at all if you give Amitraz baths once every two weeks

**Ivermectin: Oral versus Injection**

Injecting Ivermectin may produce longer bioavailability. But I use oral administration exclusively in the many temple dogs I treat because many of them won't let me get close to them. And so I put put Ivermectin in milk, or soup and let them drink it after I step away. Also, I don't want to try and inject a dog that has other dogs jumping around him and me, there is just too much room for error, accidental needle sticks, etc. Trying to change needles for each dog is an extreme hassle when dogs are crowding around you, etc, not to mention that most dogs really don't want you sticking a needle in them. (Not changing needles may mean you give the next dog an infection, possibly deadly, from dirty needle).

Oral ivermectin is what the vet books recommend anyway. It is simply not necessary to inject.

But most of the dogs I just squirt it in the back of their mouths using a 1 cc syringe without the needle. You can also open a capsule of antibiotic—(Cephalexin, see below) and—if you can't get close to the dog to shove the pill in the back of its mouth--then pour the antibiotic in the milk, too, if the dog has scabs/infection. Most hungry dogs will drink both Ivermectin and antibiotic together if they are mixed in a little milk.

Injecting the dozens of temple dogs I treat is, for me, out of the question for several reasons: difficulty injecting 'uncatchable' dogs, risk of dirty needles in a field environment, assistants purposely reusing dirty needles, dog bites, needles breaking, needles breaking in dog!, accidental needle sticks from 'chaos' of temple dogs crowding around me, the expense of needles.

But, more important, why inject at all? The Merck Veterinary Manual, 9th edtion, (available for reading, free, online, www.merck.com) gives these Ivermectin recommendations for treating the two kinds of mites (mange).

Sarcoptic Mange (canine scabies):
"Ivermectin 0.2 mg/kg ('zero point 2 mg per kilogram or: 200 micrograms per kg), **PO (by mouth)** or SC (subcutaneous), 2 treatments 2 weeks apart."

(PO= per os/by mouth; SC= Sub Cutaneous injection). Note the word 'or' in their recommendation of oral (PO) versus injection (SC). They don't say 'use only injection.'

"Demodectic Mange: .3-.6 mg/kg (300-600 micrograms/kg) **PO (by mouth)**, SID (by mouth, once per day) until cured." Note there is no mention of injection for daily treatment of Demodex mange, only oral.

So you see the Merck Veterinary Manual says that it is fine to give the Ivermectin PO, Per Os, that is, BY MOUTH. Orally. And only give it orally for Demodex mange. And for Sarcoptes mange, orally is fine.

Since I'm dealing with temple dogs and cannot do laboratory skin scrapings with microscope I cannot tell for sure when they are cured of Demodectic Mange, so a 6 week (or longer) daily treatment is what I do. (Or I don't use Ivermectin at all for Demodex mange, but give weekly or bi-weekly Amitraz baths.) Fortunately, most dogs in Thailand seem to have Sarcoptic Mange which only requires 2 oral Ivermectin treatments 2 weeks apart, but I often give 1 treatment per week for 4 weeks to be on the 'safe side' and because I may forget who I've given the meds to since I am treating dozens of dogs.

I did see on the internet that there are reports of curing Sarcoptic mange with one treatment only, at the higher dose range. This is encouraging as I sometimes run across a dog I may never see again and so even giving Ivermectin once may cure their mites.

The 1 cc syringe is great also because it is so small you can slip it (without a needle) between the teeth easily to squirt in the back of the mouth. If you squirt in front of the mouth the dog can more easily spit the medicine out. I sometimes follow an Ivermectin 'squirt' with milk from another, bigger (3cc) syringe to help them swallow, get the bad taste out of their mouth and so they won't run from me next time (or I let them drink the milk from a bowl, if there aren't other dogs crowding around me). So: squirt Ivermectin in back of mouth, Then set bowl with a little milk in front of them to drink. This 'give the milk after the Ivermectin' helps you attract them close to you next time.

**METRIC System (mg, mcg, kg, etc)**

One kilogram contains 1,000 grams.
One gram has 1,000 milligrams (mg).
One milligram (mg) has 1000 micrograms (µg, mcg)

A microgram is very, very tiny, only one-thousandth the size of one milligram (and one millionth of a gram). So a microgram is a thousandth of a thousandth. For example 0.2 mg (zero 'point' two milligrams) is the same thing as 200 µg (mcg, micrograms). I know it can be confusing because dosage recommendations are often in milligrams OR micrograms, and you have to differentiate them.

Because **Ivermectin** is a 1% solution that means that there is 1 ml (milliliter) which is also 1 gram of ivermectin in the entire 100 ml bottle (1 ml of water weighs 1 gram. water is mostly what is in the bottle. So in a 1% solution there is one gram of the actual medicine. One gram is 1000 mg. 1000mg in 100 ml bottle works out to 10 mg in each ml or cc. **So each 1/10$^{th}$ (one-tenth) of a ml/cc is one mg of Ivermectin**. Note a ml—mililiter is equal to a cc, cubic centimeter. That is, one ml equals one cc, so you can use ml and cc interchangeably. So when you've withdrawn **a full cc would be 10 mg of Ivermectin** which would be the right dose for a 20 kg dog, but too much for a 10 kg dog. Most dogs you will see in Thailand, for example, will weigh closer to 10 kg (22 lbs) than to 20kg (44 lbs) so you will be giving a third of a cc to most dogs that weigh around 10 kg..

Now perhaps you see why it is important for you to use only a one cc syringe for Ivermectin because it makes it more difficult to overdose a dog. But you can see that you can still overdose a dog using your one cc syringe if the dog weighs 5 or 10 kg and you give that dog a full cc.

Re: Ivermectin: the dosage range is 0.3 up to 0.6 mg/kg recommendation (which is a wide range), *"…it seems that higher doses do clear (demodicosis) infection faster than lower doses. This means that if a lower dose has been ineffective, a higher dose may still work."* (From www.marvistavet.com). I give all dogs 0.3 mg/kg. But the trick is knowing how much a dog weighs. You better weigh a bunch of dogs to get used to figuring out how to look at a dog and estimate his weight. But if a dog has demodex mange then you do want to weigh the dog and then give the dog the higher dose, 0.5 up to 0.6 mg/kg.

The generic liquid Thai brand of Ivermectin seems to work great. I don't have experience with other Ivermectin products, but I've been healing many dozens of dogs with the 'cheap stuff'. Using the liquid sounds a lot easier than opening a packet of powder then trying to mix it correctly. I use a 1 cc syringe (without the needle) to withdraw liquid Ivermectin from bottle which has needle left in rubber stopper. So the 1 cc syringe will be a quarter to half full for 10 kilo dog, and half-full to almost-full for 20 kilo dog. (.6 mg/kg is on the 'high' side—I've read different recommendations as to proper dosage, so I kind of err in between the .3-.6 mg/kg).

It's hard to screw up with a 1 cc syringe. With a bigger syringe, you run the risk of giving too much to the dog. Well, okay, it is possible to screw up with a 1 cc syringe: if you gave a half cc (5 mg ivermectin) to a tiny dog, or 1 cc (10 mg/ivermectin) to a small dog--yes, you can still screw up with a 1 cc syringe. But it is still much easier to just glance at the 1 cc syringe to know if you're giving too much. **Remember: each 1/10$^{th}$ (one tenth) cc/ml is one milligram of ivermectin.** It is more idiot proof, or more manageable when you've got temple dogs jumping on you, licking you, distracting you, etc and you're trying the figure out the correct dose.

Got a (small) 2 kg dog with sarcoptes mites (mange: i.e. red inflamed skin, loss of patchy hair, itching)? 2kg x 0.3mg/kg = 0.6 mg Ivermectin which equals to less than 1/10$^{th}$ cc. Since you're only using 1cc syringes then just draw a tiny amount of Ivermectin into the 1 cc syringe, less than one-tenth the way up, just 10% of the way 'up' the syringe for a 2kg dog.

A 10 kilo dog with Sarcoptes Mange?—a third way up the 1 cc syringe--10 kg x 0.3mg/kg= 3 mg or 1/3 of a 1cc syringe.

A 15 kg dog? 15 x 0.3 = 4.5 mg equals 0.45 of a cc, that is, a little less than half the way 'up' the syringe.

A 20 kg dog? 20 kg x .3 mg/kg= 6 mg equals six tenths the way up the 1 cc/ml syringe.

A 30 kg dog? 30 kg x .3 mg/kg= 9 mg. That is, nine-tenths the way up the 1cc syringe.

The above doses are for Sarcoptes mange—the kind you will mostly see that produces intense itching, red inflamed skin, patchy loss of hair. If the dog has Demodex mange, elephant skin, little itching then give the higher dose 0.6 mg/kg. I often used **0.5mg/kg** for all.

Note: if you give 0.5 mg/kg—which is a higher dose than the 0.3mg/kg one I outline above—it is okay. BUT, make triple sure you know the dogs exact weight because if you are using a higher dose such as 0.5mg/kg, then *you absolutely need to know the exact weight* of the dog. Which is why it is better to err on the 0.3mg/kg side when you are estimating weights. Practice by weighing some dogs so you can really get a 'feel' for how much they weigh.

**Remember, don't give Ivermectin to Collie or collie mixes or English/Shetland sheepdogs**.

The ten or fifteen dollars for a 100 ml bottle works out to about 10 cents per dose for a 20 or so kilo dog (20 kg x .5 mg/kg = 10 mg, or one full syringe of 1 cc size) for sarcoptic mange, the most common kind. (Each ml—or cc, same thing—has 10 mg of Ivermectin in it.)

I can't take every temple dog to my vet to have him tell me definitively which type mite--sarcoptic or demodectic--the dog has. This is problematic for me because I want to know how to treat the dog—Do I give Ivermectin every day for 1-3 months (demodex mange) or just two treatments two weeks apart (for sarcoptic mange). So what I do is: just treat for sarcoptic (2 treatments 2 weeks apart. ( or, if I know I'll be seing the dog every week, 4 weekly treatments). And I watch and see what happens. If they don't get better after 2 or 4 treatments with Ivermectin over a month period, then I start treating every day with Ivermectin. Usually, though, you will see the dog get better after just two doses of Ivermectin—because most dogs will have Sarcoptes mange, not Demodex. (The ones with demodex usually have zero hair, blackened 'elephant' skin—because they've had demodex since they were born and it has worn them down this bad).

If the dog has infection/scabs/red skin, then I also give the antibiotic cephalexin daily for a week to 6 weeks depending on infection. You are supposed to give Cephalexin two or three times a day but I often can only give it once per day, and it seems to work great. If the dog has yeast then I also give ketoconazole. I see several cases of yeast infection, but, fortunately, not many.

You may treat a dog that is so messed up you just can't tell exactly how many of which diseases it has. Maybe the dog has sores, pus, blackened hairless skin. In this case just 1) give worm pills 2) give Ivermectin 3) give antibiotics 4) give prednisolone and antihistamine (chlorpheneramine) 5) give it a bath with special shampoos (see below) 4) feed it 5) put flea medicine on it but wait several days after a bath to put it on. If dog doesn't start to get better with this regimen then add antifungal Ketoconazole to it. Or, better yet, take a picture of the dog and show it to your vet before starting ketoconazole.

**Bathing**

I use Sulphur dip (LimePlus sulphur dip from DermaPet in U.S.-- a Bangkok vet imports it). It smells terrible but it seems to greatly speed the healing process on elephant skin dogs and also on dogs with tough skin and difficult mite cases. It costs maybe 100-200 baht to treat one dog with the U.S. brand so I only use it on really hard cases. There is a Thai brand available, and this cheaper Thai brand may be, for all I know, watered down LimePlus from the U.S.—but it could also be superior: the Thai brand smells stronger, that is, smells even more like rotten eggs (sulphur) than the U.S. brand. (If anyone knows of distributors for a Thai brand that is cheaper than the expensive LimePlus sulphur dip from the U.S., then please tell me.)

And when the dog is really run down dermatologically I use special dog shampoos with coal tar, salicylic acid, and sulphur, plus I sometimes squeeze some benzoyal peroxide on them when I'm shampooing them. These ingredients are highly touted by vet dermatolagists. The

shampoos you can buy from a vet. The benzoyal peroxide is available in good pharmacies. I will often open several bottles of the different shampoos—coal tar, salicylic acid, sulphur, a tube of benzoyal peroxide—and squirt a glob of each one onto the wet dog (which as a choke collar attached to a leash and the loop end of the leash is around my arm. Don't want the soaped-up dog running away before you finish. Leave shampoos on for 10 minutes, rubbing it in, massaging the skin.

Occasionally I'll need to sedate a dog that desperately needs a bath with these special shampoos, if that dog won't let me give it bath without sedation. I got to try some acepromazine on several dogs and that stuff works great. So now I have valium which is relatively easy to get. The one dog mentioned above needed to be knocked almost all the way out because he wanted to bite and struggle. But other dogs just needed a little valium to calm them down. Like the little Shitzu whose owners let his hair grow so long that it was so hardened through being all wadded up and matted, that he couldn't scratch the 100 huge ticks that were living under the hardened hair balls, so the ticks had 'cover' and 'concealment'. When I cut it's dirty, filthy hardened hair wads, the engorged ticks hiding inside the hair balls were being cut too: not a pretty picture.

Anyway, you can't use valium with Ivermectin because they can magnify each others effects. So one needs to remember to wait to give valium until after Ivermectin has left the body. You will rarely if ever need to use sedatives, though, because most dogs understand you are helping them and will let you do whatever you need to do

You may know, by the way, that Ivermectin not only kills mites and many worms in dogs but it is also the number one drug for treating certain parasite diseases in humans. Merck drug company, the World Health Organization and the Jimmy Carter foundation has given away millions of doses of Ivermectin in developing countries where 'worms' are a huge problem infecting tens of millions of people. What a great drug! And, of course, Ivermectin is the ingredient in the HeartGuard type products to prevent heartworm, only the dose for once-per-month pill you give your dog is only about one-thousandth the dosage we give for mange, yet those monthly pills--with a minuscule amount of ivermectin--cost about as much as a half-bottle (!) of Ivermectin. What a racket! If the consumer only knew how cheap Ivermectin really is.

**Gloves and rabies**

I had rabies vaccinations 3 years ago after I was bitten here by a possibly rabid dog (turned out he wasn't), and now I am putting my hands in many dogs mouths, because I'm putting syringes in their mouth, or shoving an antibiotic or whatever pill in the back of their mouth, and I'm getting a lot of dog saliva on my hands, which can sometimes have a cut, or scratch. I'm making an effort to try and always ***wear surgical gloves***, but even these get torn. I'm also making a real effort to wash my hands a lot and thoroughly, especially, of course, if I get bitten. Wear gloves at all times. Get the rabies vaccinations.

The most important thing to do if bitten is to immediately wash any bite wound for 5 or more minutes with soap and water, and then applying iodine and hydrogen peroxide (or alcohol or even bleach if you don't have iodine and hydrogen peroxide)---these things you should do before you go to the hospital. My understanding is a dog bite is not a medical emergency, unless bitten a lot on the face, especially the face of children. Rabies is transmitted through saliva into an open wound or mucous membrane, and there is a lot of rabies in Thailand.

Teaching people to provide **fresh water** for dogs is important. I talk to monks at temples and get each temple to give me 20 or so orange buckets—the ones Thais buy full of food, soaps, etc to donate to temples. We then write, in Thai, with indelible marker on side of bucket: "Gift from (name of Wat) for your dogs water. Please change water every day. Thank you." We then give these buckets to anyone and everyone. I also teach the monks how important clean water is and for them to use these buckets for water, too, as many temple dogs don't have access to clean water. It is my hope that this idea of reusing the zillions of these orange buckets will 'catch on'.

Additional notes on Ivermectin taken from internet.

Half life in dogs is about 24 to 36 hours.

Highly toxic to aquatic life As ivermectin is extremely dangerous to fish and aquatic life treated animals should not have direct access to surface water and ditches during treatment.

ii) Special precautions to be taken by the person administering the medicinal products to animals:

Do not eat, drink or smoke while handling the product. Avoid contact with skin and eyes. If accidental skin contact occurs, wash the affected area immediately with soap and water. If accidental eye exposure occurs, flush the eyes immediately with water and, if necessary, get medical attention.
Wash hands after use.

Scabies in humans; Ivermectin one cure

Several studies on humans have demonstrated that ivermectin is just as safe and effective as topical antiscabietics. In these studies, single oral therapy with dosages ranging from 100 to 200 [micro]g/kg resulted in cure rates that ranged from 70% to 100% (14-17). In a study comparing oral ivermectin and permethrin 5% cream, two 200 [micro]g/kg doses two weeks apart were required to achieve the cure rate of a single application of permethrin, which was 97.8% (18). Despite these studies, the optimal dosage for scabies has not been established due to paucity of randomized trials and the lack of longterm experience of the drug in humans for scabies. Data from the limited number of studies indicate that two doses of 200 mg/kg of ivermectin 1 to 2 weeks apart achieve the comparable cure rates of topical antiscabietics. Single dose failure is assumed to be, in part, due to survival of the eggs leading to re-infestation. Some report successful experience with single 250 [micro]g/kg and 400 [micro]g/kg dosages, which avoids the second dosage (19).

**How Much to Spend**

I sometimes find myself having to choose between spending a lot of time and money on one dog or not. For example, one of my own dogs who lives at my house broke his leg (I think) when he was hit by a car or motorcycle in front of our house. (He knows how to climb through our iron gate, so I cannot keep him locked up.) I did not take him to the vet. He now hobbles around on 3 legs, quite well actually. I could have taken him to the vet for xrays, cast etc etc but I chose not to because I figured he may be killed any day now running loose in front of our house. I chose to spend that money instead on animals I know I can help. Besides, he gets around fine on three legs. Plus, he is much more careful about going in the street now, after being hit by a car/motorcycle.

**Poisoned Dogs**

A common method of dog 'control' in Thailand is to poison the dogs. I will do what I can to save the dog. The fact is, there are too many dogs in Thailand and no spay or neuter programs. Before when I saw a dead dog on the side of the road from a car accident, I felt 'sad'. Now, I realize that that dog's death is part of 'nature' here, and is not something to be mourned, at least for long. Also, the stray dogs here—even if they only live a year or three—probably have fuller more exciting lives than sheltered, fenced-in dogs in the West who have no other dogs to play with, who never get out of their yards or apartments (and who are, I suspect, a little crazy because of this confinement). In the West all these stray dogs would be rounded up in a heartbeat and 'euthanized',--killed. But in Thailand they are at least given a chance at a life, replete with all the things that life has to offer, including suffering. Still, a slow poisoning death is not something I like and I try to save them, of course.

**Activated charcoal**

**Activated charcoal** should not be given to animals that have ingested caustic materials (I've never seen a dog ingest caustic materials!). These materials are not absorbed systemically, and the charcoal may make it more difficult to see oral and esophageal burns. Other

chemicals that are not effectively absorbed by activated charcoal include ethanol, methanol, fertilizer, fluoride, petroleum distillates, most heavy metals, iodides, nitrate, nitrites, sodium chloride, and chlorate.

Emesis is contraindicated (in other words, don't make them vomit) with ingestion of alkalis, acids, corrosive agents, or hydrocarbons due to the risk of chemical burns or aspiration. The pre-existing condition of the animal also determines the indication for using an emetic. Emesis should not be induced at home in an animal that has a history of epilepsy, cardiovascular disease, or is debilitated. Veterinary supervision is recommended in these situations. Recent histories of abdominal surgery or potential for a gastric torsion are other factors that could make emesis a contraindication. It may be safest, depending on the situation, to induce vomiting in brachycephalic (short-nosed) breeds at the veterinary hospital versus at home due to aspiration risk. Emesis should not be attempted if the animal has already vomited or is exhibiting clinical signs.

So, basically, forget making the dog vomit. Just empty a bunch of charcoal capsules into some milk or, better yet, chicken soup and let the dog drink it. If you can 'pill' the dog then 'pill' him with many charcoal capsules, one after another. Easier to use chicken soup, though. Plus the liquid of the soup helps.

Some drugs can have anti-emetic effects (makes vomiting difficult) . Examples of such drugs include phenothiazines, antihistamines, barbiturates, narcotics, antidepressants, and marijuana. It is important when taking the history to find out if the animal has been taking these or any other medications.

Emetic (to make vomit) Agents (can use hydrogenperoxide before giving charcoal. Only use this if you know the dog recently swallowed the poison and if the dog is 100% conscious.

Three-percent hydrogen peroxide is an effective emetic for the dog, pig, ferret, and cat. Do not induce emesis in rodents, rabbits, birds, horses, or ruminants. The dosage is 1 teaspoon per 5 lbs., not to exceed 3 tablespoons. It should be administered undiluted – not mixed into water or food. However it is helpful to feed a small, moist meal of either canned food or a slice of bread before inducing vomiting, as it makes emesis more productive by giving the toxicant something to adhere to. Bulb syringes, feeding syringes, or turkey basters aid in administration. Put the syringe (with no needle) or bulb/etc with Hydrogen Peroxide far back in his throat and squirt. Or, have some plastic tubing handy and 'push' the tubing far back in his mouth and then squirt the hydrogen peroxide down the tube into the back of his throat. He will probably vomit instantly. Hydrogen peroxide causes vomiting through mild gastric irritation. Vomiting usually occurs within minutes and can be repeated once if not initially successful at causing emesis. Important to get the hydrogen peroxide in the back of his throat to insure he swallows it. If you just squirt it into front of mouth he may just spit it out.

You can crush activated charcoal tablets (or open capsules) and pour many of them into water, chicken soup, milk, etc and then let them drink from bowl or you administer the blackened charcoal liquid into the dogs mouth using large plastic syringe without the needle. That is, if they are conscious. Don't put anything in the mouth of an unconscious dog. But note, however, that even an unconscious dog will sometimes wake up if you put chicken soup drops on his lips. He will then drink the activated charcoal chicken soup in the bowl you have under his nose. I saved a dog once this way, a dog I just knew was dead (a hundred flies had already landed on it!) but the drops of chicken soup I swear made him come out of his coma!

If I even suspect a dog has eaten poison —say, if he is just laying around looking sick, then I give him 5 or 10 activated charcoal capsules. It is non-toxic and cannot hurt them so always better to give it to them just in case.

Signs that suggest poisoning: mouth irritation, skin rash, lethargy, vomiting, diarrhea, lack of appetite, drooling, staggering, hallucination causing over-reaction to sound or light, breathing difficulty, bleeding disorders (check gums for bleeding), muscle tremor and rigidity, seizure,

heart failure, kidney or liver problems, coma and death. For rat poison (warfarin), depression and anorexia occur in all species even before bleeding occurs.

Always at first hint of poisoning, open many capsules of activated charcoal, and put them in milk or, better yet, chicken soup made with salt and a little sugar. Get the dog to drink this. It should only taste as salty as tears, no more. The sugar is essential to help the salt get absorbed, which is why sports drinks like Gatorade have both salt and sugar in them.

If you can determine the poison he ate then you can give the antidote. Usually they will have eaten an organophosphorous or carbamate pesticide in which case you give them atropine intravenously (IV). If you see bleeding gums, or blood coming from other places, then the dog may have eaten warfarin type poisons (rat poison) in which case you give them Vitamin K1 intravenously (IV) if they are unconscious or oral if they are conscious (mix with salt/sugar chicken soup).

By giving IV atropine and oral Vitamin K1 you will be covering most bases for the likely poisons a dog may have eaten. *"Atropinization is adequate when the pupils are dilated, salivation ceases, and the animal appears more alert". (Merck Vet Manual)*

If you don't have IV fluids to administer then it is very important that you make the chicken soup, and add a bit of sugar and some salt. The sugar is absolutely necessary in order that the salt can be absorbed once it is eaten/drunk. If you don't have sugar, then white rice gruel—mashed—will serve as a carbohydrate that readily turns into sugar once eaten.

Remember that the first thing the ambulance driver does for most accident victims is put a saline IV in. But since you aren't doing it IV (unless you've taken dog to a vet), then you MUST add sugar to the lightly salted water (chicken soup), otherwise your Oral Rehydration Therapy (ORT) will fail. The salty chicken soup should be no more salty than tears or sweat---LIGHTLY salted (with sugar added!) Let the dog drink as much as he wants. Keep adding the charcoal to the salt/sugar chicken soup. The correct dose for activated charcoal for humans or dogs is 1 g/kg, that is 1 gram of activated charcoal for each kilogram body weight. So if the dog is 10 kg you would give 10 grams of activated charcoal every 4 hours or so. The capsules are usually 500 mg (half a gram each, or two makes a gram) so to give 10 grams for a 10 kg dog you would give 20 capsules every four hours for 2 or 3 times.

I have saved poisoned dogs with nothing other than the salt/sugar chicken soup and lots of activated charcoal—I didn't have Vitamin K1 or atropine. This one particular dog appeared dead to me, with hundreds of green iridescent flies on him. Turns out he was in a coma. But when the chicken soup was placed under his nose, lo and behold, he woke up enough to lift his head off the ground and drink the soup with activated charcoal and he survived. Put some drops of soup in the dog's mouth if you need to, or use a large syringe without needle to squirt the salt/sugar chicken soup in the back of his mouth—as long as he is conscious and can drink it. Do not attempt this if the dog is unconscious or you might cause the dog to aspirate the soup into his lungs.

After you've given the charcoal and the IV atropine and the oral Vitamin K1 then give them some or all of the following to counteract the toxicity to the liver:

NAC (n-acetyl cysteine, an amino acid which replenishes glutathione, extremely important!), Silymarin (the active ingredient in the herb 'milk thistle'—or you can just give the milk thistle), Carnitine (another amino acid), and Vitamins K, E, A. And give more fluids, chicken soup with salt/sugar as outlined above.

One poisoning incident that bears telling is 50 or so dogs ate a bad batch of dried dog food at Samui Dog Rescue in Koh Samui, Thailand and they all fell ill, and most died. The food was grain based and had aflatoxin on it. If you suspect this kind of poisoning then the antidote is always activated charcoal and, specifically for aflatoxin: NAC, carnitine, Silymarin (milk thistle), Vitamin A, E, K and salt/sugar/chicken soup rehydration.

If you're not sure of the poison you can start with a little atropine IV and observe. If you know for sure it is the very commonly used carbamate or organophosphate (Organophosphorus) pesticides then definitely give atropine.

But in all cases, give the activated charcoal as soon as possible if the dog is fully conscious.

Important Note: Your bottle of **Ivermectin**. **Use a #18 needle** because this is wide enough to let the thick Ivermectin flow. You can experiment with different needle sizes but if you're having a hard time 'pulling' the Ivermectin from the bottle then the needle size is too small.

Stick the needle in the rubber stopper of Ivermectin bottle. Use duct tape to **tape the needle to the bottle** so that it can't be pulled out. Put your bottle with *taped* needle into an empty, say, peanut butter bottle with lid. Keep your 1cc syringe in the peanut butter bottle. When you need to administer Ivermectin orally to a dog then stick your 1cc (almost pencil-lead thin) syringe in the plastic end of the taped needle, invert the Ivermectin bottle, withdraw the appropriate amount into your syringe. Then squirt it in bowl of milk, or directly into dogs mouth and then use a 3cc syringe to follow the ivermectin squirt with milk squirt—this helps the dog 'enjoy' the yucky taste of Ivermectin. Rinse the syringe off with water if it's been in dog's mouth.

**Treatment summary,**
Oral **worm meds**.
Oral **Ivermectin for mites**.
**Flea/tick medicine** applied to shoulders.
Food. Water.

**Wounds, How to treat, summary**
Cut hair around wound, **wash** wound if possible, **apply iodine** and/or other antibiotic, powder wound and surrounding area with **Negasunt** (coumaphos)—to prevent maggot infection or to kill existing maggots) , apply **flea/tick medicine** to back of neck (not in wound if wound is on back of neck!), give oral **worm medicine**, oral **Ivermectin**, oral **antibiotics,** oral **prednisolone,** oral **antihistamine**. **Feed the dog** protein (dry dog food is often much better than what they normally eat and is much appreciated by dogs) and make sure dog has access to **clean, fresh water** in a clean bowl at all times.

**Dogs with inflamed skin, hair loss, itching.**

**Flea/tick** medicine applied to shoulders.
Oral **worm meds**.
Oral **Ivermectin**.
**Chlorpheneramine** (antihistamine).
Oral **prednisolone** (steroid anti-inflammatory and all around miracle medicine).
**Bathe** with special shampoo containing one or more of the following: benzoyal peroxide, sulphur, salycilic acid, coal tar. Bathing is very important if the dog has very little hair, blackened skin, etc. But if the dog has only some hair loss and some redness then you do not always need to bathe. Note: Wait a couple days after bathing to put flea/tick medicine on. If you think that this is the only time you will see this dog then do not bathe, but do everything else.
**Feed** and give **water** to the dog.

**Wounded or sick or mange-ridden dog that won't let you approach it.**
If you need to do hands-on treatment then put some **acepromazine** in a sausage and toss it to dog. (see dosages on dosage chart). When dog 'passes out' or is otherwise groggy, then put your **collar/leash** around dog's neck and the other end of the leash with loop around your arm. Now you have both hands free but you also have the dog on a leash with the loop around your arm. Now you can sponge **Mitoban (amitraz**) if he is mangy. And treat wounds with topical iodine. When he wakes up then open **antibiotics** capsules, **chlorpheneramine** (antihistamine), **Ivermectin,** etc into bowl of milk or chicken soup and let the dog drink it. (Do not give Amitraz and Ivermectin at the same time) Put **worm pills** in sausage and let him gulp it down.

**Chicken soup how and why to make it**

Cut chicken into small pieces, put in some boiling water with a little salt and a little sugar. This stuff can raise the dead. Even if you have an unconscious dog, say, from pesticide poisoning—open a bunch of activated charcoal capsules and pour them in the soup, place some drops on dog's lips and he will probably come out of his coma to drink—I'm serious! I've see it with my own eyes. And it is great for masking the taste of antibiotics and ivermectin. There are very few dogs who will turn down chicken soup, even if it has stinky Ivermectin and antibiotics in it (but don't crush the worm pills in it, as I don't think they will go for that—put the worm pills in sausages instead.)

**Mitoban/Amitraz for Demodex mange.**

Note: sarcoptes mange—the very itchy kind that causes hair to fall out in clumps, can be cured with just a couple of oral Ivermectin 'squirts'. But if dog has demodex mange often covering entire body with scaly, blackened skin and little itching then you can be fairly certain it is Demodex mange which can't be cured by two squirts of Ivermectin. Either you give Ivermectin EVERYDAY for 6 weeks, OR you dip with Amitraz three times spaced two weeks apart.

Wear long sleeve clothes, and avoid contact with your skin. Use separate syringe and squirt 2ccs of Amitraz (Mitoban) in one liter of water. Shake. Pour some of solution in bowl. Put on **dishwashing gloves**. Dip sponge in bowl. Wipe and squeeze sponge every square inch of dogs, avoiding eyes. Take each foot and hold it in bowl of Amitraz for several minutes. Demodex mange (mites) hide in the feet, so this part is important. Leave solution on dog, do not rinse. Repeat every two weeks for six weeks (total 3 treatments). Every week for 6 weeks for total 6 treatments is better. Keep Amitraz syringe,sponge, bowl, etc separate from your other items! You don't want to accidentally use your amitraz syringe for giving oral Ivermectin!

Note: If above fails to cure dog then you need to give **anti-fungal** medicine: **Ketoconozole**, etc.

**ticks, dozens or hundreds**

Very important for both you and dog to never remove ticks using only your fingers. If you use your thumb and forefinger you risk squeezing stomach contents of tick into dog which can be VERY bad for the dog because tick-borne diseases are very deadly and very hard to cure and huge numbers of them will be squeezed into dog if you use your fingers! So, use tweezers if there are only a few ticks. Grab tick at ***head area*** and pull. Do not use tweezers to grab tick on tick's body area! Only grab at head area. Place removed tick in bowl of water that has a little bleach added to it. Repeat.

If dog has dozens **or hundreds of ticks**, then take 2ccs of Mitoban (Amitraz)for ticks and follow instructions above and **apply Mitoban/Amitraz using sponge.** The ticks will immediately fall off dead or paralyzed as soon as Amitraz/water solution hits them.
Give **oral antibiotics** (amoxicillin ***and*** doxycycline) for a week at least because the ticks have injected dog with deadly stealth organisms.

## **Dosages for Dogs/Cats**. (print this dosage chart out and carry with you)

Note on abbreviations: **Q** means "every" **PO** means "Per Oss" (by mouth) **SID**=once every day, **BID**=twice/day **TID**=three times per day, **QID**=four times per day **SC**=subcutaneous (under skin. Lift up skin over shoulder and inject there).

acepromazine 0.5-3 mg/kg TID, QID but you only need to give ONE time (SID) to sedate.
Amitraz 12.5%, 4cc/litre H20, 1x Q 2 wks but every week better, for 8-10 wks,clip hair if long
Amoxicillin/Clavulinic Acid: dogs cats-14 mg/kg PO BID-TID
Aspirin dogs 10-25 mg/kg PO BID-TID; cats -10 mg/kg PO Q2d (better to use Carprofen)
Amoxicillin or Cephalexin 20-30 mg/kg 2-3x/day BID TID
Aspirin 10-25 mg/kg PO BID (cats:10mg/kg Q 48 hrs)

Carprofen (Rimadyl): dogs 0.5 mg/kg PO BID Iboprofen class NSAID with a wide safety margin in dogs.
**Charcoal 1-4g/kg Q 6-8 hr (for poisoning)**
Chlorpheneramine dogs 2-8 mg PO BID or TID Cats: 1-2 mg
Dexamethasone: all species-**shock**-5mg/kg IV bolus, CNS trauma-2-3 mg/kg IV, then taper to 1 mg/kg SQ TID-QID; for anti-inflammatory 0.07-0.2 mg/kg PO, IM, SQ SID.
Diazepam (valium): all species-0.25-0.5 mg/kg IV, IM, IP, oral
Diphenhydramine 2-4/4-8 mg/kg antihistimine, antiemetic (stop vomiting),sedative
Hydrogen Peroxide to make vomit: 2 ml/kg every 15 minutes but give no more than 45ml total
Hydrogen Peroxide to clean wound: pour liberally along with Iodine (betadine)
Ibuprofin 5-10 mg/kg SID/BID. Cats: 5 mg/kg po SID (but better to use Carprofen)
(Ibupro smaller.margin.safety in dogs-use acetomenophen (paracetamol) instead
Iodine (betadine) pour liberally on/in wound along with hydrogen peroxide
Ivermectin 0.2-0.5 mg/kg and each 0.1 cc has 1 mg.
Ketoconazole for fungal infections 10mg/kg SID or BID or 2-5 mg/kg maintenance dose
Loratidaine (clarityne) (an antihistamine) no known toxicity give whatever amount
Metronidazole for diarrhea 10-20 mg/kg PO BID TID plus give acidophilus/probiotic
Paracetamol/acetaminophen dogs: 15mg/kg q8h but do NOT give to CATS
Prednisolone 2mg/kg/day;(or dexamethasone 0.22 mg/kg/day)

Poisoned with Warfarin (rat poison) : give Vit K1 0.25-2.5mg/kg or 2.5-5mg/kg, SC (inject under shoulder skin with smallest needle in several locations to minimize bleeding)

Poisoned with Carbamate:antidote is injection of atropine dogs/cats 0.2-2mg/kg, given 1/4dose IV, 3/4 dose SC

Prednisolone .5-1 mg/kg PO, SID or every other day (**but do not give to dog w/Demodex mange)**
Pseudoephedrine 0.2-0.4 mg/kg
**Toad poisoning. Give Activated Charcoal And Atropine**.
Lidocaine for tachyarythmia. Valium for CNS excitability. (Valium 'reverses' lidocaine overdose)
Valium .5-2 mg/kg for seizures or anxiety. Can give rectally if having a seizure. Crush tablet mix w/water.
Xylazine hydrochloride sedative/anaesthetic/analgesic 1-2 mg/kg SC
or IM (yohimbine reverses xylazine, that is, yohimbine is 'antidote' for accidental overdose of xylazine)

**Treatment of carbamate poisoning** : Carzol, mexacarbate (Zectran), aldicarb (Temik), carbofuran (Furadan). methomyl (Lannate), carbaryl (Sevin). poisoning is **similar to that of organophosphate**: Azodrin, Bidrin, Bomyl, carbophenothion (Trithion), Co-Ral, Dasanit, DDVP (Vapona), demeton (Systox), Diazinon, dimethoate, dioxathion (Delnav), disulfoton (Di-Syston), Dursban, Dyfonate. EPN, ethion, famphur (Warbex), fenthion (Baytex), Guthion, malathion, Metasystox-R, methyl parathion, Monitor, parathion, phorate (Thimet), mevinphos (Phosdrin), phosphamidon, Schradan (OMPA). Supracide. TEPP) poisoning in that **atropine sulfate injections** readily reverse the effects. Recommended dosages for atropine are as follows: dogs and cats—dosed to effect (repeated as needed), usually 0.2-2 mg/kg, parenterally (other than by stomach), one-fourth of the dose given IV and the remainder given SC (cats should be dosed at the lower end of the range);

**For Warfarin** etc: Vit K1 **Vitamin K1** is antidotal. Recommended dosages vary from 0.25-2.5 mg/kg in warfarin (coumarin) exposure, to 2.5-5 mg/kg in the case of long-acting rodenticide intoxication (diphacinone, brodifacoum, bromadiolone). Vitamin K1 is administered SC (with the smallest possible needle to minimize hemorrhage) in several locations to speed absorption. IV administration of vitamin K1 is contraindicated, as anaphylaxis may occasionally result. The oral form of K1 may be used daily after the first day, commonly at the same level as the loading dose (divided bid). Fresh or frozen plasma (9 mL/kg) or whole blood (20 mL/kg) IV is required to replace needed clotting factors and RBC if bleeding is severe. One week of vitamin K1 treatment is usually sufficient for first-generation anticoagulants. For intermediate and second-generation anticoagulants or if anticoagulant

type is unknown, treatment should continue for 2-4 wk to control long-term effects. Administration of oral vitamin K1 with a fat-containing ration, such as canned dog food, increases its bioavailability 4-5 times as compared with vitamin K1 given PO alone. **Clinical signs** generally reflect some manifestation of hemorrhage, including anemia, hematomas (lumps—of blood00underskin), melena (dark bloody shit), hemothorax (blood throat), hyphema (blood in eye) epistaxis (nosebleed), hemoptysis(spitting blood), and hematuria(blood urine). Signs dependent on hemorrhage, such as weakness, ataxia, colic, and polypnea (fast breathing) may be seen. **Depression and anorexia (not eat) occur in all species even before bleeding occurs.**

It's pathetic, really, because in the years I was in Thailand I've only **neutered** a handful of dogs because the vet is 50 kilometers from my home. And so now I am caring for all those dogs who 'should' have never been born in the first place! The Thai government needs to somehow be motivated to deal with this problem. Too many suffering dogs? 'Mai pen rai!' ('let it be') It shouldn't just be compassionate farangs (westerners) who lead the way.

We need to learn how to teach others in Thailand (monks, caring Thais) how to administer these medicines, so it is not just us few who are relieving this suffering.

Additional notes on **Ivermecti**n taken from internet. *Half life in dogs is about 24 to 36 hours.* ***Highly toxic to aquatic life****. As ivermectin is extremely dangerous to fish and aquatic life treated animals should not have direct access to surface water and ditches during treatment. Special precautions to be taken by the person administering the medicinal products to animals:*

*Do not eat, drink or smoke while handling the product. Avoid contact with skin and eyes. If accidental skin contact occurs, wash the affected area immediately with soap and water. If accidental eye exposure occurs, flush the eyes immediately with water and, if necessary, get medical attention.*

*Wash hands after use.*

**Flies, Maggots and Lice**

You can kill maggots easily (with 'Negasunt', i.e. coumaphos powder) and also teach you how to sedate a dog (if necessary) so you can pick the maggots out with tweezers, if you don't want to take it to a vet. Fortunately, you won't have to deal with this problem often—or never. But understanding it will enable you to deal with it if you have to and it will help you prevent maggot infection in the first place.

It is true you can just pour Negasunt (coumaphos) powder into an open maggot-infected wound on an animal and let it go at that. But it is much better to take the time to remove the maggots because dead and decaying maggots left in a wound aren't good for the dog. But, you may only have a brief encounter with a dog and if the only thing you can do is to sprinkle the Negasunt (coumaphos) powder into and around the wound before the dog runs off—well, that is certainly better than nothing. But the reality is you won't see many maggot-infested dogs. But you will see dogs with open wounds and it is important to clean the wound if possible and then put some antiobiotic cream or iodine on the wound and then sprinkle some Negasunt (coumaphos) powder on and around the wound. Putting the Negasunt (coumaphos) powder on and around the wound will prevent the flies from successfully laying eggs on or around the wound. Many dogs may need to be sedated (give acepromazine orally, put the tablets in sausage if necessary, see dosages below).

But one golden retriever I cared for had a 3 centimter diameter hole in his skin where maggots had taken up residence—you couldn't redily see the maggots but you could see the dog frantically scratching at the hole and a reddish-clear liquid. This golden was so calm he didn't need to be sedated and he was probably very smart and realized I was there to help him. So he lay still the entire hour it took me to get the maggots out. I had to lay on the floor and put my penlight in my mouth so I could use both hands: one hand to pull the wound open and the other hand with tweezers to extract the maggots (and put them in a bowl of water with a little bleach.

Flies buzzing around a dog is a “Red Alert”. Whenever you see flies buzzing about a dog you will probably either find an open wound or feces/urine matted into the dog’s coat. If feces and/or urine it is extremely important to clean that and cut the hair if necessary to get rid of the smell that is attracting the flies. If left untreated the feces/urine will attract flies who will lay eggs creating maggots that will eat the dog.

**Miasis—invasion of the (dog’s) body by flies.** From a tiny pinprick opening on the dog’s body flies can ‘attack’ this tiny bloody spot, laying their eggs in it. When eggs hatch the baby flies (larvae) eat the flesh, enlarging the wound. The maggots can enlarge this tiny hole to a giant hole, eating their way deep under the skin. So it is important to treat bloody wounds on a dog. Squirt Iodine on it, and then put Negasunt or Bacticin. You might (I would for at least a couple of days or longer) also give some antibiotics (Amoxicillin, Cephalexin, etc) Orally as the infectin may have progressed throughout the body. Also, if I saw maggots in the wound, or even suspected they might be there, hidden under the skin, I would give Ivermectin orally to the dog. The Ivermectin will circulate in the dog and when the maggots eat the dog’s fles h they will also eat the ivermectin and die. So: wash wound with Iodine, put Bacticin or Negasunt on wound, give Antibiotics and Ivermectin PO (‘per oss’, i.e., ‘by mouth’, orally).

Also, dogs can get large open wounds from fighting. Ideally, you might want to have the wound sewn up by a vet but the fact is even a large wound as 20 cm—8 inches—can heal without stitching if you put iodine liquid, hydrogen peroxide and an antibiotic—say,Bacticin--cream on it daily. Sure, taking the dog to the vet is perhaps preferable but if you are caring for many, many dogs you have to make a ‘battlefield’ decision—based on ‘triage’ principles as well as your budget. Triage is the doctor term for dividing patients into three groups 1) those that cannot be saved with available treatment—so no treatment is given and the patients are left to die. 2) those that can be saved by giving treatment immediately and 3) those that will live even if no immediate treatment is given now, that is, they can be treated later.

**Flies**

Myiasis: Invasion of the body by larvae of flies, characterized as cutaneous (sub-dermal tissue), gastrointestinal, nasopharyngeal, ocular, or urinary, depending on the region invaded.)

Wounds on dogs. If you see flies on a dog then you need to suspect an “invasion of the of the body by larvae of flies” which is the definition of the medical word “miasis”. Having maggots (fly larvae) is a very serious problem and if you see flies constantly on or near a dog you need to take action. Dog’s fight each other and dog’s bite each other, often causing open wounds—maybe just a small wound but enough to draw blood. And the smell of blood is like a dinner bell for flies. But a clue will be where the flies are landing on the dog. You may not see the wound if it is buried under hair. Bacteria and flies like open wounds. Flies like to lay their eggs in and around the wounds—when you see flies around a dog the flies aren’t there to ‘find food’ for themselves, they are there to lay dozens or hundreds of eggs very quickly, which turn into maggots which then go to work eating the dog by burrowing their way into flesh. If the dog has been sick with diarheaa and has feces and/or urine in its hair then you need to give the dog a bath and cut its hair if it is long and especially long and tangled and knotted. Flies, ticks and fleas love a ‘protected environment’ like tangled, knotted hair especially hair that is dirty with feces or urine or blood. And, surely, these twisted knotted balls of hair can’t be comfortable for the dog.

The tiniest of pinprick wound—or dog with knotted or dirty hair--that has just a drop of blood can attract flies who lay their eggs which, when they become maggots, will begin to eat their way into the body, expanding the pinprick wound into what can become a very large, often circular, wound that oozes body fluids and has a very pronounced sickly odor. This is why it is so important to go to “Code Red” when you see flies constantly around or on an animal, or when you detect a very offensive smell and then find an open wound.

If you see dirty and debris in the wound then it is extremely important to clean the wound of the dirt and debris. The medical term for this cleaning of a wound is ‘debridement’. If you

leave dirt and debris in a wound then it may not matter how much antibiotics you give—the animal may never recover because the remaining dirt and debris may continue supplying bacteria to the dog. So clean the wound.

If all you have is a water in a bottle then use that to slowly pour water on the wound while you wipe and 'sweep' the dirt from the wound. Much better to irrigate wound with iodine and a lot of hydrogen peroxide—"brown and bubbly". Then put iodine or a cream antibiotic on the wound. Then 'dust' it with coumaphos—Negasunt is one brand name—being careful not to inhale the powder yourself.

If the wound is more than just a minor wound then the dog should get oral antibiotics for several days or longer as well as having fresh antibiotic cream or iodine applied once or more per day. .

Don't forget to do all the other essential things for this dog: apply flea/tick medicine to back of neck, give worm tablets, and give oral Ivermecitin.

First dust the wound with the powder Coumaphos (Negasunt is one brandname of this great drug). Also, sprinkle Coumaphos on the hair and body around the wound because I think the flies also lay eggs there, too. Then put some sort of antibiotic ointment (bacticin, for example) on top of powder, and then sprinkle some more Coumaphos on top of that. (You've made a 'sandwich' of Coumaphos/antibiotic ointment/coumaphos). But if all you have is the coumaphos, that is fine, too.

Give both **prednisolone** orally (PO) 1mg/kg and **chlorpheneramine** (or another anti-histimine) to help the dog not itch and want to scratch. (See dosage chart elsewhere in this booklet.) The dog's scratching the wound only makes it worse and can re-open the wound, attracting flies and maggots. So very important to give prednisolone AND an antihistamine (such as chlorpheneramine).

Then give oral Ivermectin. The Ivermectin will help kill any mites, of course, and some worms, but it may also help kill any maggots (baby flies) that may be underneath wound or inside body under wound.

I would also give oral **antibiotics**, not only for wound itself but for any maggots that die inside body it will be nice to have some antibiotics circulating in blood to kill decaying maggot gunk in system.

Clip the hair on and around the wound. Ideally, you should do this first, but the dog may not hold still long enough so best to put cumophos on wound first. If you've fed the dog before, or can offer some dog food while you're treating him, this is an incentive for him to stay. You can also put the leash and choke collar on him. But if he is really stubborn and in pain from wound or for whatever reason, you might have to sedate him. Or you might not be able to do that but when the dog is bent over eating the food you've put down—is when you can quickly 'dust' his wound with **coumaphos** (Negasunt), and maybe also pour some flea medicine on his shoulders. The food you put down can be a bowl of milk (the kind that needs no refrigeration) into which you've put 1) **Ivermectin** 2) **Prednisolone**, 3) **chlorpheneramine** (or another antihistamine) 4) **Cephalexin or amoxicillin**. You should stick **Worm pills** inside sausage and let him eat it. Please note that many dogs will let you 'pill' them, that is, let you stick the pills back inside their mouths. See directions elsewhere for how to correctly do this.

If the wounds on the dog has maggots in them for a long time, you will know it, believe me. It is the worst, most foul, smell I have ever smelled: decaying, rotting flesh. I saw one dog with very large wounds like this---10-20 or more centimeters in diameter. The vet made the dog 'sleep' with anesthesia and then painstakingly removed, with tweezers, many dozens of squirming maggots from down inside the large, rotting wounds.

"*the hair coat should be kept clean of urine or feces (in the hair) and should not be permitted to become matted. Contaminated wounds and matted hair coats soaked in urine or feces rapidly attract adult myiasis-producing flies." And "Removing maggots from existing deep*

*tissue pockets may be difficult, and sedating or even anesthtizing the animal may be necessary. The lesion should be examined on successive days; adult flies lay eggs in the wound at different times, and hatcing of larvae may not be synchronous."* (Merck Veterinary Manual)

One dog I treated had been hit by a car and its hind legs were paralyzed so it couldn't defecate properly. The result was feces and urine in its hair, which attracted flies and their maggots. I cut the hair and bathed the crippled dog.

This dog also had **lice**. At first I didn't see them because when you part the hair of the dog the lice run very, very fast, almost disappearing before your eyes. Very tricky little blood suckers! So dusting the dog with Negasunt (Coumaphos) and dusting its bed area. (This is war!)

The vet pointed out that these large wounds could have begun as a small pinprick-size area of blood on the dog's skin, where flies start laying eggs, and, as they hatch, the maggots eat and eat so that the wound enlarges. So if you see a tiny wound it is a good idea to powder it with Negasunt (Coumaphos) after you've applied iodine and/or other antibiotic cream.

If you see a dog that is at an advanced stage of myiasis, then it is best to consult a vet. But if you can't then you have to do the best you can which can include any or all of the following depending on what the dog will let you do. **Clean** the wound and pour liberal amounts of hydrogen peroxide and iodine in the wound, cut the hair, bathe the dog, apply **topical antibiotic** to wound, sprinkle **Negasunt** (Coumaphos) powder, give **oral antibiotics**, **oral worm meds**, pour **flea medicine** on shoulders, give oral **ivermectin**. Some dogs won't let me touch them so cleaning the wound may be difficult unless you have a way to make the dog 'sleep' (acepromazine, or 'Ace'—see below for how to give this med). So I will put some food down near me, the dog will come close to eat it, and I will already have my arm extended with hand containing coumaphos ('Negasunt' in Thailand) bottle which I then shake onto wound while dog is eating. I then dribble liquid Iodine onto the wound while the dog is distracted by eating. Or use your leash with choke collar and put the loop-end of the leash around your arm so you don't have to hold it.

If the dog will let you—or if you can sedate him with acepromazine or whatever—then you need to use your tweezers to remove the maggots. The wound may have an 'edge' to it that when lifted reveals a kind of 'cave' under the skin where you see the body fluids oozing. Soak up these fluids with something clean—tissue paper works okay—but a clean coth would be better. Holding your little flashlight in your teeth, lift up the edge of the wound after you've soaked up the fluids and you will see what appears to be white rice. You will probably have to lay down to do this so your head can be 'even' with the hole you are lifting 'up' or 'opening'. Get comfortable because you will be there a long time, as picking a 100 squirming maggots is not a quick deal. Using your tweezers grab one of the maggots and pull it out—you may find that there are two or more in your tweezers—and put the squirming maggots in a bowl of a little bleach mixed with water—or just iodine if you don't have the bleach and water. Then repeat this process over and over until you have removed as many maggots as you can see. Keep blotting up the oozing body fluids as you work because this will help you see the maggots deep inside the wound.

Other dogs may not let you touch them, much less dig around in their wounds. If the dog won't let you touch him, and if you don't have any drugs to sedate, then you're going to have to be content to put iodine/antibiotic on wound, sprinkle wound and surrounding area with **coumaphos** (Negasunt) apply **flea/tick** medicine to back of neck, give **worm pills**, and give oral **Ivermectin** (dose for mites) and give oral **antibiotics**. The Negasunt and Ivermectin will kill the maggots. **Repeat the Negasunt** for several days or longer. **Give oral antibiotics** regardless of whether you can remove the maggots with tweezers but especially if you can't remove them—because the maggots dying from the coumaphos can cause infection which your oral antibiotics will fight.

And, last but not least, for several days give **prednisolone** (or some other steroidal anti-inflammatory) and also an **antihistamine such as chlorpheneramne** . This is important

because the dog will be itching intensely from the maggots and will be scratching his wound. So give Prednisolone and also an antihistamine such as chlorpheneramine.

When you are visiting your dog friends I find it a good idea to touch the entire body of the long hair dogs, looking for wounds by spreading the hair with my fingers. I have been often surprised what I find underneath long hair on a dog that looks happy and strong with his or her tail wagging. I often find bite wounds that are not healing, pus, blood, ticks, lice, etc. This wound may not have the unmistakable horrible smell of a maggot-infested wound, but it may have fly eggs already laid. And even if there are no maggots there now, you can be sure some flies will be attracted to it very soon. So make sure you dust it with Coumaphos in addition to the other things described here. You may not see the dog the next day but the Negasunt (Coumaphos) powder you dust on and around it will kill any maggots laid the next day. If there is urine or feces in the hair, this absolutely must be bathed out with soap and water. But even in the worse case scenario of a dog you cannot control long enough to bathe it (or cut its dirty hair) then make sure you give all meds already mentioned.

Note that there is one fly in North America, the Gray Flesh Fly, that does not need a wound in order to invade the body. It can deposit larvae (instead of eggs) on healthy, uninjured skin of suitable hosts (including young children), particularly young animals. "Larvae penetrate the unbroken skin and form a boil-like swelling, producing intense irritation and inflammation." (from the Merck Veterinary Manual which you should consult in addition to your vet if you suspect this fly.)

**Rabies**

I had ***rabies vaccinations*** after I was bitten here by a possibly rabid dog (turned out he wasn't), and now I am putting my sometimes ungloved hands in the mouths of dogs, because I'm putting syringes in their mouth, or shoving an antibiotic or whatever pill in the back of their mouth, and I sometimes get dog saliva on my hands, which can sometimes have a cut, or scratch. I'm making an effort to try and always wear surgical gloves, but even these get torn. I'm also making a real effort to wash my hands a lot and thoroughly, especially, of course, if I get bitten. Always wear gloves.

The most important thing to do if bitten is to immediately wash any bite wound for five or more minutes with soap and water taking a break from washing by applying iodine and hydrogen peroxide or alcohol, and then wash some more with soap and water. These things you should do *before* you go to the hospital. A dog bite is not a medical emergency, unless bitten a lot on the face, especially the face of children. Immediately wash wound for 5 minutes with soap and water, iodine, hydrogen peroxide, more soap and water---5 minutes—then more hydrogen peroxide, alcohol and iodine.

Rabies is transmitted through saliva into an open wound or mucous membrane, and there is a lot of rabies in Thailand, so make sure you get the rabies vaccinations once you leave the expensive Western countries (vaccinations are $5 or $10 each in non-tourist area hospitals). Taking 5,000 units of Vitamin D3 daily and extra magnesium is good for every adult but is essential before you get vaccinated for anything. And put a cold pack on the site of vaccination for two hours afterwards, which will reduce the harmful inflammation. (This advice per Dr Russell Blaylock, MD neurosurgeon).

For one thing, rabies is carried in the saliva of dogs and other mammals. Getting bitten by a rabid animal is NOT the only way to get rabies. If rabies saliva comes in contact with an open wound on you—or in your mucous membranes—you can get rabies a fatal disease with no cure once you come down with symptoms. (Well, okay, there is ONE case in the medical literature of a guy surviving rabies but only by being hooked up to virtually every lifesaving machine in the hospital.)

In fact, before you start caring for dogs ***you*** should get the **rabies vaccinations**.
Rabies is 'everywhere' in less developed countries!
Pre-exposure vaccine schedule: 3 doses on days 0, 7, 21 (or 28). Booster dose: 1ml every 2-5 years.
Post-exposure vaccine schedule: **Previously vaccinated:** 2 doses at 0 and 3 days

**No prior rabies vaccine:** 4 doses at 0, 3, 7, and 14 days *and* rabies immune globulin (RIG) with first dose; if immunocompromized give a fifth dose on day 28

The hallmark clinical sign of rabies infection in a mammal is not foaming at the mouth or crazed growling, although both these things can indicate rabies**. The hallmark clinical sign of rabies is strange behavior**, such as a normally nocturnal (active at night) animal seen walking around in the day, or an animal that normally never approaches humans. But if you exercise caution, you will be fine. No one has ever died from rabies who has been bitten by a rabid animal who has received prompt medical care & vaccinations & immunoglobulin (and *immediately* wash and disinfect the wound with a lot of soap & water & hydrogen peroxide, iodine (betadine), and alcohol. If you can't observe the animal for ten days after being bitten then you DEFINITELY need rabies shots. If it does not die within ten days then you do not need shots. Rabies is not a problem if you are careful. To be on the safe side, get the vaccinations before you start spending time in the field with lots of dogs. But don't think the vaccinations will protect you if you are bitten. The vaccinations should be considered your 'backup'. **Prompt washing of the wound** for *FIVE* minutes with all the things mentioned above **should be your number one priority**. If you are away from running water then immediately pour on the wound some of the betadine, hydrogen peroxide, and/or alcohol that you should always have in your pack.

Remember that rabies is very common in poor countries like Thailand! Thousands of people die every year in poor countries from rabies.

**Ivermectin for Heartworm**

**How to save hundreds or thousands of dollars on your dog**

Using 'bulk' Ivermectin to prevent heartworm

Heartworms are transmitted by mosquitos and can grow up to many inches long while they live in the heart of a dog. The monthly heartworm preventative, Heartgard, sold by vets for anywhere from $5-$8 per month, can be done by you for pennies. The money you and friends save doing it the following way you can instead donate to a dog rescue group in a less developed country where $5 for example, can end the suffering of several or more dogs. Encourage your friends how to use a 'cheap' bottle of Ivermectin to save, cumulatively, thousands of dollars. Donate that saved money to rescue orgs.

Read the label of your Heartgard box and note that Ivermecin is the active ingredient in the monthly heartworm prevention pills that people give their dogs. The wonderful medicine Ivermectin in tiny amounts will kill the circulating microfilaria ('baby' heartworms) and prevent them from taking up residence in the heart. The amount of ivermectin for monthly heartworm protection is hundreds of times smaller than you will be giving for killing mites and worms and only costs a couple of cents but people don't know this so they fork over a thousand dollars or more over the lifetime of the dog when they could have done it themselves for far less.

**One Drop of Ivermectin orally per month to dogs for prevention of Heartworm—cost 3 cents** per dog to prevent heartworm and kill circulating microfilariae ('baby' heartworms) . Note that 2 or 3 drops is fine, also, and won't hurt the dog (unless your dog is a Collie, Sheepdog or a cross of those—then there MAY be problems).

If you need to convince yourself that the "1 drop" is the correct amount here is the math.

Ivermectin comes in bottles that say "1% solution" which means there is 1 gram (1000 mg) in a 100 ml bottle because the liquid (water) in the Ivermectin bottle weighs 1 gm per 1 ml/cc. Note that 100 cc is the same thing as 100 ml. 1000mg divided by 100ml equals 10mg Ivermectin per cc/ml if a 1% solution. So that works out to 1 mg Ivermectin per 0.1cc (1 mg per each tenth of a cc/ml). Each dog needs 6 mcg--(micrograms: millionths of a gram)--per kg body weight per month, so a 20 kg dog (44 lbs) needs 120 mcg per month (20 kg x 6 mcg/kg) to prevent adult heartworms. As you can see this 120 mcg (microgram) for a 20kg dog is a very tiny amount! 120 millionths of a gram!

There are 2 drops per 0.1 cc and since that 0.1 cc has 1000 mcg in it that means one drop has 500 mcg of Ivermectin. Since a 20 kg dog only needs 120 mcg that means one drop is more than enough given orally each month to prevent heartworm for any dog up to 80 kg. Giving 500 mcg when the dog only needs 120 mcg is NOT a problem and will not hurt the dog (except possibly in Collies, sheepdogs and their crosses—see below).

So, one drop for 0-80kg (0-176 lbs). I usually give a couple drops per dog because that way I am sure they got some medicine. (Never give Ivermectin to Collies, collie-mixes, Sheepdogs, as those breeds don't do well with large doses—but 1 or 2 or 3 or 4 drops will not hurt them, most vets say—BUT, to be on the safe side, it is always better to have a vet test your collie or sheepdog before giving ANY Ivermectin. Repeat: since there is controversy on this so do your own research before giving even one drop of ivermectin to Collies, collie-mixes, sheepdogs, etc and Never give these dogs the large doses necessary to cure Mange.

A good way to use the 50 cc bottle of Ivermectin you buy is to buy an 18 gauge needle (lower numbers are wider which is needed for the thick Ivermectin) and stick that needle in the bottle and **tape it** to the bottle, never removing it. Then use a ONE CC plastic syringe (1 cc—not any bigger, as 1 cc will minimize dosing errors) and draw 1 or 2 drops into syringe, then remove syringe—without the needle, of course, as the needle is firmly taped to bottle--and then place a drop or two of Ivermectin on tongue or in food of animal. Rinse the syringe and set it back in needle that is taped into bottle rubber stopper. Note that reusing plastic syringe this way can theoretically contaminate needle in bottle and possibly bottle contents too so I would not use this bottle for injection purposes, but only for oral administration. If you need to have this bottle available for injection then you need to use a new needle each time.

Note that a 50 ml/cc bottle of Ivermectin at 20 drops per ml/cc is 1,000 drops. At the approximately $5 per 'HeartGuard' pill vets charge you can see that a 50 m/cc bottle with 1,000 doses is 'worth' $5,000 at the rate vets charge for HeartGuard heartworm prevention tablets.

Note that the Hartguard pills come with an additional med added for one intestinal worm but this is just a gimmick, as really dogs should be given a full-strength worm pill containing several different meds. That is, it is better to save thousands of dollars by using a bottle of Ivermectin and then every 6 months-one year giving your dog a 'real' deworming. (But note that your bottle of Ivermectin has a shelf life of only so many years and you will have to throw the old stuff out and buy a new bottle unless you share it with friends or use it in higher doses for mange thereby using it before expiration date. Note many medicines are actually good beyond their expiration date. You can share your bottle with your friends because the expiration date a few years in the future will mean you'll be throwing most of it away.

So you see the Merck Veterinary Manual says that it is fine to give **the Ivermectin PO**, Per Os, that is**, BY MOUTH. Orally.** And *only* give it orally for Demodex mange. And for Sarcoptes mange, **orally is fine**.

## List of Medicines to order.

**Ones in bold/underlined are 'must haves'**. The other ones are very good to have on hand. I recommend you study the Merck Vet Manual and also read www.marvistavet.com

**Ivermectin**, **Vescomec** (their brand of Ivermectin, also known as Ivomec in Thailand) 50cc or 100cc bottle. Tape #18 needle inside stopper, use 1cc syringe to withdraw.

**Extokill** (flea/tick medicine) 50 bottles of 2cc each. 1 cc for up to10 kg dog, 2cc for 10-20 kg dog.

**Amoxy (Amoxicillin**) 500 mg 1 bottle of 500 caps. A good 'all purpose' antibiotic. Very cheap.

**Toflex (Cephalexin**) 500 mg 100 caps 2 bottles premier antibiotic for skin, ear and urinary tract.

**Acepromazine** tablets 33.75 mg 1 bottle (3 or 4 or more—start slow--put in sausage will immobalize dog who won't otherwise let you get near it to treat it for wounds, etc)

**Prednisolone** 5 mg bottle/1000 tabs (fantastic med to help with itching & severe illness—do not. give to dog with Demodex mange, though, as it suppresses an already suppressed immune system)

**Negasunt** 20 gm or 40gm bottles (powder for wounds to keep maggots off & to kill visible maggots

**Helmentacide** Lg size 5+2 boxes (these are the 'worm pills', buy 5 boxes get 2 free) Fantastic deal.

**Car-b-on** one box (**activated charcoal**, absolutely necessary in your kit for suspected poisonings or diarrhea. Used to save human lives, too, in every emergency room worldwide. I carry some with me no matter where I am—take at first sign of feeling unwell. In massive toxic substance poisoning take 1g/kg, so a 100kg person takes 200 capsules (500 mg each). But for 'regular' food poisoning, only take 5 or 6.

**Iodine** (Betadine, Polidone) good to put on wounds, bites, etc after you've washed them w/soap/water.

**Syringes** box of 1 cc (100 per box?). I use one syringe for squirting ivermectin in mouth/milk, etc until it no longer works then I throw it away. You will use a lot of these. Also buy 5 or 6 Large 60 cc syringes for squirting chicken soup etc into mouth of really sick dog.

**Box of needles**, some large (#18) size, some small (#23) size. You need #18 to tape to your bottle of Ivermectin after you have inserted needle through rubber stopper. Ivermectin is thick and is hard to withdraw with a smaller, #23 needle, which needles (#23) are good for injections IF—if—you have inject something (but no need to inject Ivermectin—just give orally).

**surgical gloves**, box of. Wear these when touching the dogs especially their mouths.

**Ninazol** 200mg antifungal meds. Give to dog with blackened, greenish, foul-smelling skin along with Ivermectin,Cephalexin, worm pills.

**Doxycycline**: reserve this medicine for treating dogs that have had many ticks attached to them. Will kill 'stealth' organisms injected from ticks. Doxycycline is used to treat human gonorrhea, syphilis, chlamydia including pneumonia and other respiratory tract infections; Lyme disease; acne; infections of skin, genital, and urinary systems; and anthrax (after inhalational exposure). It is also used to prevent malaria. So you see good to have in your kit for dogs and humans.

**Dexamethasone** for shock, accident. Dexton injectable 4 mg box/50amp.

Odotecide (sp?) ear meds for killing bugs in ears

Mycotic Earskin 2

Terramycin (eye antibiotic)

Ecotak (amitraz) (this is the 'dip' that kills Demodex mites with 1 dip/week for 4 weeks if you can't give Ivermecting daily for 2 months)

Coal tar shampoo

Ninazol shampoo needed for bad skin cases

Sulphur shampo I use all three (Benzoyal-Sulphur-Salicylic)of these shampoos at one time on bad cases!

**Atropine** 1mg inj 1 box 50amp (this is antidote for most insecticide poisonings. Must inject IV. I never needed it but good to have on hand. If dog is conscious, don't forget to mix activated charcoal in chicken soup and let him drink it—or just shove 20 or 30 capsules down his throat. Activated charcoal is often enough to save a dog.

A good place to buy wholesale drugs, syringes, needles etc for dogs is Pet World Center in Thailand if you live in Thailand. To get their price list and drug list you must email them as you won't find the price list or their drug etc products on their website. Email: info@petworldcenter.com

**Symbols** Q= every PO= Per Os by mouth SID = once per day BID = twice per day TID = thrice per day QID = 4 times per day IM-intra muscular, IV intra venous, SQ sub cutaneous

## **Dosages for Dogs** (print out 'Dosages', carry with you)

Acepromazine 0.5-3 mg/kg TID, QID
Acetamenophen most vet pharmaco think It not work in dogs
Amitraz 12.5%, 4cc/litre, 1x/wk, 8-10 wks clip dog hair
Amoxicillin: dog or cat 20-30 mg/kg PO BID-TID
Aspirin dog: 10 mg/kg PO BID-TID; cats 5 mg/kg PO Q48hrs (better to give carprofen
Atropine for pesticide poisoning 0.2-2.0 mg/kg give 1/4$^{th}$ dose IV, the rest SC or IM (cats dosed at lower end)
Carprofen (Rimadyl): dog: 2mg/kg PO BID anti inflammatory.
**Charcoal, activated 1-4g/kg Q 6-8 hr (for poisoning)**
Cephalexin or Amoxicillin 20-30 mg/kg 2-3x/day BID TID

Chlorpheneramine (antihistamine) dogs 2-8 mg PO BID/TID Cats: 1-2 mg
Dexamethasone: all species, for shock: 5mg/kg IV bolus, CNS trauma: 2-3 mg/kg IV, then taper to 1 mg/kg SQ TID-QID, anti-inflammatory: 0.07-0.2 mg/kg PO, IM, SQ SID.
Diazepam (valium): all species-0.25-0.5 mg/kg IV, IM, IP. Use for convulsions in poisoning.
Diphenhydramine 2-4/4-8 mg/kg antihistamine, anti-vomit, sedative
Hydrogen.Peroxide make vomit: 2 ml/kg every15min but less than 45ml total
Ibuprofin 5 mg/kg SID/BID. Cats: 5 mg/kg PO SID.Do not give more thanThis! Better to use carprofen (rimadyl) instead of ibuprofen or aspirin.
Ivermectin 0.2-0.5 mg/kg, PO, (orally). Note:each 0.1 cc has 1 mg if bottle=1%
Ketoconazole 10mg/kg SID/BID or 2-5 mg/kg maintainence dose
Loratidaine (clarityne) antihistimine: no known toxicity give whatever amount
Metronidazole for diarrhea 10-20 mg/kg PO BID TID PLUS prednisolone
Paracetamol/acetaminophen dogs: 15mb/kg q8h but NOT CATS. (carprofen is better for dogs)
Poison Warfarin: Vit K1 0.25-2.5mg/kg SC for warfarin or 2.5-5mg/kg for long-acting brodifacoum. Sm needle!
Poison: Organophosphate: atropine 0.2-2mg/kg ¼ IV, ¾ SC Diazepam-valium-(oral, inj, rectal) for convulsions
Poison Carbamate: atropine inj.dogs/cats 0.2-2mg/kg, ¼ dose IV, ¾ dose SC. Diazepam(valium) 4 convulsions
Prednisolone 0.5-2 mg/kg PO, IM, IV, SC, SID *or* every other day but not give if dog has Demodex mange
Pseudoephedrine 0.2-0.4 mg/kg
Toad poisoning. Oral Charcoal. And Atropine for saliva/bradyarythmia.
Lidocaine for tachyarythmia of toad poisoning. Valium for CNS excitation.
Tramadol 2-4mg/kg for pain dogs/cats BID.
Valium 0.5-2 mg/kg
Vitamin K1 for rat poison (bleeding gums is one sign) 0.25-2.5 mg/kg or higher see below
Xylazine hydrochloride sedative/anesthetic/analgesic 1-2 mg/kg SC or IM (yohimbine reverses, is antidote)

**Treatment of carbamate poisoning** : Carzol, mexacarbate (Zectran), aldicarb (Temik), carbofuran (Furadan). methomyl (Lannate), carbaryl (Sevin). poisoning is **similar to that of organophosphate**: Azodrin, Bidrin, Bomyl, carbophenothion (Trithion), Co-Ral, Dasanit, DDVP (Vapona), demeton (Systox), Diazinon, dimethoate, dioxathion (Delnav), disulfoton (Di-Syston), Dursban, Dyfonate. EPN, ethion, famphur (Warbex), fenthion (Baytex), Guthion, malathion, Metasystox-R, methyl parathion, Monitor, parathion, phorate (Thimet), mevinphos (Phosdrin), phosphamidon, Schradan (OMPA). Supracide. TEPP) poisoning in that **atropine sulfate injections** readily reverse the effects. Recommended dosages for atropine are as follows: dogs and cats—dosed to effect (repeated as needed), usually 0.2-2 mg/kg, one-fourth of the dose given IV and the remainder given SC (cats should be dosed at the lower end of the range);

**For Warfarin (rat poison)** : **Vitamin K1** is antidotal. Recommended dosages vary from 0.25-2.5 mg/kg in warfarin (coumarin) exposure, to 2.5-5 mg/kg in the case of long-acting rodenticide intoxication (diphacinone, brodifacoum, bromadiolone). Vitamin K1 is administered SC (with the smallest possible needle to minimize hemorrhage) in several locations to speed absorption. IV administration of vitamin K1 is contraindicated, as anaphylaxis may occasionally result. The oral form of K1 may be used daily after the first day, commonly at the same level as the loading dose (divided bid). Fresh or frozen plasma (9 mL/kg) or whole blood (20 mL/kg) IV is required to replace needed clotting factors and RBC if bleeding is severe. One week of vitamin K1 treatment is usually sufficient for first-generation anticoagulants. For intermediate and second-generation anticoagulants or if anticoagulant type is unknown, treatment should continue for 2-4 wk to control long-term effects. Administration of oral vitamin K1 with a fat-containing ration, such as canned dog food, increases its bioavailability 4-5 times as compared with vitamin K1 given PO alone.
**Clinical signs** generally reflect some manifestation of hemorrhage, including anemia, hematomas (lumps—of blood underskin), melena (dark bloody shit), hemothorax (blood throat), hyphema (blood in eye) epistaxis (nosebleed), hemoptysis(spitting blood), and hematuria(blood urine). Signs dependent on hemorrhage, such as weakness, ataxia, colic, and polypnea (fast breathing) may be seen. **Depression and anorexia (not eat) occur in all species even before bleeding occurs.**

# ***Rabies***

In addition to the info below you are encouraged to become familiar with the National Association of State Public Health Veterinarians (NASPHV) website, which has some good info including their info on rabies here: http://www.nasphv.org/Documents/RabiesCompendium.pdf

As well as their 'Standard Precautions' here: http://www.nasphv.org/Documents/VeterinaryPrecautions.pdf

Below is a lengthy discussion of Rabies from the Merck Veterinary Manual http://www.merckvetmanual.com/mvm/index.jsp

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*Rabies is an acute, progressive viral encephalomyelitis that principally affects carnivores and bats, although it can affect any mammal. The disease is fatal, once clinical signs appear. Rabies is found throughout the world, but a few countries claim to be free of the disease due either to successful elimination programs or to their island status and enforcement of rigorous quarantine regulations.*

*Etiology and Epidemiology*

*Rabies is caused by lyssaviruses in the Rhabdovirus family. Lyssaviruses are usually confined to one major reservoir species in a given geographic area, although spillover to other species is common. Identification of different virus variants by laboratory procedures such as monoclonal antibody analysis or genetic sequencing has greatly enhanced understanding of rabies epidemiology. Generally, each virus variant is responsible for rabies virus transmission between members of the same species in a given geographic area.*

*From an epidemiologic perspective, it is common to use the name of the species acting as the reservoir and vector as an adjective. For example, rabies maintained by dog-to-dog transmission is termed canine rabies, whereas rabies in a dog as a result of infection with a variant from a different reservoir animal, eg, skunk (or fox), would be referred to as skunk (or fox, etc) rabies in a dog.*

*In North America, distinct virus variants are responsible for rabies in red and Arctic foxes in Canada and Alaska, raccoons along the eastern seaboard, gray foxes in Texas, and a closely related variant in gray foxes in the southwestern USA. Two different variants are responsible for rabies in striped skunks, one in the south central states and the other in the north central states. Another skunk rabies virus variant is found in California. The*

*epidemiology of rabies in bats is complex. In general, each variant found in bats may be characterized with a predominant bat species. Spillover from bats to terrestrial animals is seen infrequently. Most human cases of rabies in the USA in the past decade have been caused by bat rabies virus variants (especially viruses associated with Lasionycteris noctivagans, the silver-haired bat, and Perimyotis subflavus, the tricolored bat).*

*Reservoirs of rabies vary throughout the world. Canine rabies predominates in Africa, Asia, Latin America, and the Middle East. In North America and Europe, where canine rabies has been eliminated, rabies is maintained in wildlife.*

*For many years, skunks were the most commonly reported rabid animal in the USA, but since 1990, rabid raccoons have been the most numerous. Canine rabies became established in dogs and coyotes (Canis latrans) in southern Texas, but was eliminated. Canine rabies persists in Mexico, with the potential to spread throughout the USA if reintroduced. Skunk, raccoon, and fox rabies are each found in fairly distinct geographic regions of North America, although some overlap occurs. Bat rabies is distributed throughout the Americas. The vampire bat is an important reservoir in Latin America, and is the source of multiple outbreaks in cattle, as well as in humans, particularly in parts of Amazonia.*

*In Europe, red fox rabies predominated before its elimination by oral vaccination. In parts of eastern Europe, rabies in raccoon dogs is of increasing concern. Rabies in insectivorous bats may be widely distributed in Europe.*

*Other wild species play an important role in the transmission of rabies in certain areas, including mongooses in the Caribbean, southern Africa, and parts of Asia; jackals in parts of Africa; and wolves in parts of northern Europe.*

*All rabies reservoirs are also vectors of the virus, but not all vectors are reservoirs. For example, cats can effectively transmit the virus, but no cat-to-cat transmission of rabies persists, and no unique feline rabies virus variant has been documented. However, cats are the most commonly reported rabid domestic animal in the USA. Virus is present in the saliva of rabid cats, and people have developed rabies after being bitten by rabid cats. Reported cases in domestic cats have outnumbered those in dogs in the USA every year since 1990.*

*Transmission and Pathogenesis*

*Transmission almost always occurs via introduction of virus-laden saliva into tissues, usually by the bite of a rabid animal. Although much less likely, it is possible for virus from saliva, salivary glands, or brain to cause infection by entering the body through fresh wounds or intact mucous membranes.*

*Usually, saliva is infectious at the time that clinical signs occur, but it is possible for domestic dogs, cats, and ferrets to shed virus for several days before onset of clinical signs. Viral shedding in skunks has been reported for up to 8 days prior to onset of signs. Rabies virus has not been isolated from skunk musk (spray).*

*The incubation period is both prolonged and variable. Typically, the virus remains at the inoculation site for a considerable time. The unusual length of the incubation period helps to explain the effective action of local infiltration of rabies immune globulin during human postexposure prophylaxis, even days after exposure. Most rabies cases in dogs develop within 21–80 days after exposure, but the incubation period may be shorter or considerably longer. One reliably recorded case of rabies in a human in the USA had an incubation period >6 yr.*

*The virus travels via the peripheral nerves to the spinal cord and ascends to the brain. After reaching the brain, the virus travels via peripheral nerves to the salivary glands. If an animal is capable of transmitting rabies via its saliva, virus will be detectable in the brain. Virus is shed intermittently in the saliva.*

*Hematogenous (via blood) spread does not occur. Under most circumstances, there is no danger of aerosol transmission of rabies virus. However, aerosol transmission has occurred under very specialized conditions in which the air contains a high concentration of suspended particles or droplets carrying viral particles. Such conditions have been responsible for laboratory transmission under less than ideal containment situations. There has been a suggestion of rare natural aerosol transmission in a cave inhabited by millions of bats. Oral and nasal secretions containing virus were probably aerosolized from tens of thousands of rabid bats. Aerosol infection may occur via direct attachment of the virus to olfactory nerve endings.*

*Clinical Findings*

*Clinical signs of rabies are rarely definitive. Rabid animals of all species usually exhibit typical signs of CNS disturbance, with minor variations among species. The most reliable signs, regardless of species, are acute behavioral changes and unexplained progressive paralysis. Behavioral changes may include sudden anorexia, signs of apprehension or nervousness, irritability, and hyperexcitability (including priapism). The animal may seek solitude. Ataxia, altered phonation, and changes in temperament are apparent. Uncharacteristic aggressiveness may develop—a normally docile animal may suddenly become vicious. Commonly, rabid wild animals may lose their fear of humans, and species that are normally nocturnal may be seen wandering about during the daytime.*

*The clinical course may be divided into 3 general phases—prodromal, acute*

*excitative, and paralytic/endstage. However, this division is of limited practical value because of the variability of signs and the irregular lengths of the phases. During the prodromal period, which lasts ~1–3 days, animals show only vague nonspecific signs, which intensify rapidly. The disease progresses rapidly after the onset of paralysis, and death is virtually certain a few days thereafter. Some animals die rapidly without marked clinical signs.*

*The term "furious rabies" refers to animals in which aggression (the acute neural excitative phase) is pronounced. "Dumb or paralytic rabies" refers to animals in which the behavioral changes are minimal, and the disease is manifest principally by paralysis.*

*Furious Form*

*This is the classic "mad-dog syndrome," although it may be seen in all species. There is rarely evidence of paralysis during this stage. The animal becomes irritable and, with the slightest provocation, may viciously and aggressively use its teeth, claws, horns, or hooves. The posture and expression is one of alertness and anxiety, with pupils dilated. Noise may invite attack. Such animals lose caution and fear of humans and other animals. Carnivores with this form of rabies frequently roam extensively, attacking other animals, including people, and any moving object. They commonly swallow foreign objects, eg, feces, straw, sticks, and stones. Rabid dogs may chew the wire and frame of their cages, breaking their teeth, and will follow a hand moved in front of the cage, attempting to bite. Young pups can seek human companionship and are overly playful, but bite even when petted, usually becoming vicious in a few hours. Rabid skunks may seek out and attack litters of puppies or kittens. Rabid domestic cats and bobcats can attack suddenly, biting and scratching viciously. As the disease progresses, muscular incoordination and seizures are common. Death results from progressive paralysis.*

*Paralytic Form*

*This is manifest by ataxia and paralysis of the throat and masseter muscles, often with profuse salivation and the inability to swallow. Dropping of the lower jaw is common in dogs. Owners frequently examine the mouth of dogs and livestock searching for a foreign body or administer medication with their bare hands, thereby exposing themselves to rabies. These animals may not be vicious and rarely attempt to bite. The paralysis progresses rapidly to all parts of the body, and coma and death follow in a few hours.*

*Species Variations*

*Cattle with furious rabies can be dangerous, attacking and pursuing humans and other animals. Lactation ceases abruptly in dairy cattle. The usual placid expression is replaced by one of alertness. The eyes and ears follow sounds*

*and movement. A common clinical sign is a characteristic abnormal bellowing, which may continue intermittently until shortly before death.*

*Horses and mules frequently show evidence of distress and extreme agitation. These signs, especially when accompanied by rolling, may be interpreted as evidence of colic. As in other species, horses may bite or strike viciously and, because of their size and strength, become unmanageable in a few hours. People have been killed outright by such animals. These animals frequently have self-inflicted wounds.*

*Rabid foxes and coyotes often invade yards or even houses, attacking dogs and people. One abnormal behavior that can occur is demonstrated by the fox that attacks a porcupine; finding a fox with porcupine quills can, in many cases, support a diagnosis of rabies.*

*Rabid raccoons and skunks typically show no fear of humans and are ataxic, frequently aggressive, and active during the day, despite their often crepuscular nature. In urban areas, they may attack domestic pets.*

*In general, rabies should be suspected in terrestrial wildlife acting abnormally. The same is true of bats that can be seen flying in the daytime, resting on the ground, paralyzed and unable to fly, attacking people or other animals, or fighting.*

*Rodents and lagomorphs rarely constitute a risk for rabies virus exposure. However, each incident should be evaluated individually. Reports of laboratory-confirmed rabies in woodchucks are not uncommon in association with the raccoon rabies epizootic in the eastern USA.*

*Diagnosis*

*Clinical diagnosis is difficult, especially in areas where rabies is uncommon and should not be relied on when making public health decisions. In the early stages, rabies can easily be confused with other diseases or with normal aggressive tendencies. Therefore, when rabies is suspected and definitive diagnosis is required, laboratory confirmation is indicated. Suspect animals should be euthanized and the head removed for laboratory shipment.*

*Rabies diagnosis should be done by a qualified laboratory, designated by the local or state health department in accordance with established standardized national protocols for rabies testing. Immunofluorescence microscopy on fresh brain tissue, which allows direct visual observation of a specific antigen-antibody reaction, is the current test of choice. When properly used, it can establish a highly specific diagnosis within a few hours. Brain tissues examined must include medulla oblongata and cerebellum (and should be preserved by refrigeration with wet ice or cold packs). The mouse inoculation test or tissue culture techniques using mouse*

*neuroblastoma cells may be used for confirmation of indeterminate fluorescent antibody results, but it is no longer in common use in the USA.*

*Control*

*Comprehensive guidelines for control in dogs have been prepared internationally by the World Health Organization and in the USA by the National Association of State Public Health Veterinarians (NASPHV). They include the following: 1) notification of suspected cases, and euthanasia of dogs with clinical signs and dogs bitten by a suspected rabid animal; 2) reduction of contact rates between susceptible dogs by leash laws, dog movement control, and quarantine; 3) mass immunization of dogs by campaigns and by continuing vaccination of young dogs; 4) stray dog control and euthanasia of unvaccinated dogs with low levels of dependency on, or restriction by, humans; and 5) dog registration.*

*The Compendium of Animal Rabies Control, compiled and updated annually by the NASPHV, summarizes the most current recommendations for the USA and lists all USDA-licensed animal rabies vaccines that are marketed in the USA. Many effective vaccines, such as modified live virus, recombinant, and inactivated types, are available for use throughout the world; in the USA, no modified live rabies virus vaccines are currently marketed (for any species). Recommended vaccination frequency is every 3 yr, after an initial series of 2 vaccines 1 yr apart. Several vaccines are also available for use in cats, and a few for use in ferrets, horses, cattle, and sheep. Because of the increasing importance of rabies in cats, vaccination of cats is extremely important. No parenteral vaccine is approved for use in wildlife. Protective immunity from the commercially available vaccines for domestic species has not been definitively demonstrated in these species.*

*Until recently, the control of rabies in wildlife populations relied on population reduction of wildlife in an attempt to reduce the contact rate between susceptible animals; however, this proved difficult and often not publicly acceptable, ecologically sound, economically warranted, or programmatically effective. In Europe and Canada, use of oral vaccines distributed in baits to control fox rabies has been widespread and effective. The disease in foxes has been eliminated from most of western Europe and curtailed significantly in Ontario. Use of a vaccinia-rabies glycoprotein recombinant virus vaccine in the USA has successfully eliminated coyote rabies in southern Texas and has limited the western expansion of raccoon rabies from the eastern USA. The license limits use of the vaccine to state or federal rabies programs; it is not available to private veterinarians or for individual animal use. Together with other vaccines, it is also being used to assist in the control of dog rabies in developing countries.*

*Management of Suspected Rabies Cases—Exposure of Pets*

*Where terrestrial wildlife or bat rabies is known to occur, any animal bitten or*

*otherwise exposed by a wild, carnivorous mammal (or a bat) not available for testing should be regarded as having been exposed to rabies. The NASPHV recommends that any unvaccinated dog, cat, or ferret exposed to rabies be euthanized immediately. If the owner is unwilling to do this, the animal should be placed in strict isolation (ie, no human or animal contact) for 6 mo and vaccinated against rabies 1 mo before release. If an exposed animal is currently vaccinated, it should be revaccinated immediately and closely observed for 45 days.*

*Zoonotic Risk (zoonotic means an infectious disease transmitted from animal to human)*

*When a person is exposed to an animal suspected of having rabies, the risk of rabies virus transmission should be evaluated carefully. Risk assessment should include consideration of the species of animal involved, the prevalence of rabies in the area, whether exposure sufficient to transmit rabies virus occurred, and the current status of the animal and its availability for diagnostic testing. Wild carnivores and bats present a considerable risk where the disease is found, regardless of whether abnormal behavior has been observed. Insectivorous bats, though small, can inflict wounds with their teeth and should never be caught or handled with bare hands. Bat bites may be ignored or go unnoticed, so direct contact with bats could be considered a risk for virus exposure. Any wild carnivore or bat suspected of exposing a person to rabies should be considered rabid unless proved otherwise by laboratory diagnosis; ideally, this includes bats in direct contact with people, such as those found in rooms with sleeping or otherwise unaware persons. Wildlife, including wolf hybrids, should never be kept as pets; if one of those animals exposes a human or domestic animal, the wild animal should be managed like free-ranging wildlife.*

*Any healthy domestic dog, cat, or ferret, whether vaccinated against rabies or not, that exposes (bites or deposits saliva in a fresh wound or on a mucous membrane) a person should be confined for 10 days; if the animal develops any signs of rabies during that period, it should be euthanized and its brain promptly submitted for rabies diagnosis. If the dog, cat, or ferret responsible for the exposure is stray or unwanted, it may be euthanized as soon as possible and submitted for rabies diagnosis. Since the advent of testing by immunofluorescence microscopy, there is no value in holding such animals to "let the disease progress" as an aid to diagnosis.*

*Internationally, the World Health Organization recommends several types of cell-culture vaccines for human groups at risk. In the USA, guidelines for human rabies prevention follow recommendations prepared by the Advisory Council on Immunization Practices.* ***Pre-exposure immunization is strongly recommended for people in high-risk groups****, such as veterinary staff, animal control officers, rabies and diagnostic laboratory workers, and, under certain circumstances, some travelers working in countries in which canine rabies is prevalent. Pre-exposure vaccine is*

*administered on days 0, 7, and 21 or 28. However, pre-exposure prophylaxis alone cannot be relied on in the event of subsequent rabies virus exposure and must be supplemented by a limited postexposure regimen (2 doses of vaccine, IM, on days 0 and 3). For healthy, unvaccinated patients bitten by a rabid animal, postexposure prophylaxis consists of wound care, local infiltration of rabies immune globulin (RIG), **and** vaccine administration on days 0, 3, 7, and 14.*

(end of Merck Veterinary Manual quotation)

Note: when bitten by any animal it is imperative that you ***immediately*** **wash the wound** for several minutes with soap and water. Alternate the washing of the wound with application of any or all of the following: iodine, rubbing alcohol, hydrogen peroxide—then wash the wound some more. Only after you have washed the wound for five minutes with soap, water, and applied some iodine, alcohol or hydrogen peroxide should you then seek out the doctors/hospital. And if you've already been vaccinated make sure the hospital does not give you all four vaccinations over again. If you have already been vaccinated and are bitten, then you only need 2 booster injections on days 0 and 3. See discussion elsewhere for full info.

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