

SECTION VII

MANUAL OF FIRST AID FOR DOGS

LV/OFS Note: This section is intended to inform the reader of the proper steps to take in cases of dog injury or illness. It is not intended to make anyone an expert in the care of injured dogs. It is, however, intended to be used as a tool when occasions arise where emergency measures are needed.

This information was taken from a “Manual for Training Directors” developed by LV/Nordrhein-Westfalen and translated by “Margaret Hummen, DVM” for the purposes of this manual

MANUAL OF FIRST-AID FOR DOGS

TABLE OF CONTENTS:

	<u>Page</u>
.....	4
INTRODUCTION	4
GENERAL COMMENTS	5
FIRST-AID KIT	5
IMMEDIATE PRIORITIES	7
TRANSPORTING SICK OR INURED ANIMALS	9
<u>EXTERNAL INJURIES</u>	10
1.) Minor injuries of the skin	10
2.) Minor injuries of the skin in the vicinity of the eyes or the external ear canal	10
3.) Injuries to the eyelids	11
4.) Abrasions	12
5.) Cuts and lacerating injuries	12
A.) Application of a pressure dressing	13
B.) Application of a tourniquet	14
6.) Puncture wounds and gunshot wounds	15
7.) Bite wounds	16
8.) Injuries from foreign bodies	17
9.) Injuries to the feet	18
A.) Application of a foot bandage/dressing	19
B.) Footsore pads	21

10.)	Injuries in the region of the head	22
	A.) Injuries of the ears	22
	1.) Bleeding wounds	22
	2.) Hematoma (blood blister) of the	25
	B.) Injuries of the eyes	26
	1.) Injury to the cornea	26
	2.) Caustic eye injuries	26
	3.) Foreign bodies in the eye	27
	4.) Prolapse of the eyeball	27
	C.) Tooth injuries	27
	D.) Foreign bodies in the oral cavity	28
	E.) Caustic injury to the oral cavity	29
	F.) Nosebleeds	30
11.)	Penetrating injury to the chest	31
	A.) Blunt trauma to the chest	32
12.)	Penetrating injury to the abdominal cavity	32
	A.) Blunt trauma to the abdominal cavity	33
	EXTERNAL INJURIES	34
13.)	Contusions (bruising) and hemorrhage	34
14.)	Sprains and strains	35
15.)	Dislocation of a joint	35
16.)	Broken bones (fractures)	36
	A.) Closed fractures	36
	Application of a leg splint	39
	B.) Open (compound) fractures	40
	C.) Open joint injuries	41

17.)	Shock	41
18.)	Loss of consciousness	43
19.)	Respiratory arrest	45
	Artificial Respiration:	45
	A.) By massaging the rib cage	45
	B.) By mouth to nose resuscitation	46
20.)	Cardiac arrest	47
	Cardiac massage:	47
21.)	Heatstroke:	48
	Body temperature:	49
22.)	Cardiac and circulatory weakness	52
23.)	Hypothermia (too low body temperature)	54
24.)	Electric shock	55
25.)	Drowning and suffocation (asphyxia):	56
26.)	Insect bites/stings	57
27.)	Burn accidents	59
28.)	Carbon monoxide poisoning	60
29.)	Poisoning (general)	61
	Emergency centers for poison information	62
30.)	Spasms (muscle cramps) and seizures (fits)	62
31.)	Gastric torsion (gastric dilatation/bloat)	63
	<u>NORMAL VALUES/FIGURES FOR THE DOG</u>	69

***** End Table of Contents *****

FIRST-AID FOR DOGS

INTRODUCTION

Most people, at some time or another in their lives, have taken a First-Aid course and acquired some knowledge about how to help sick or injured human beings in an emergency situation. Veterinary practice shows that the majority of animal owners are not in a position to give First-Aid to their own or a strange animal in an emergency situation. The reason for this is seldom any lack of good will, but rather lack of knowledge and the fear of doing something wrong and thereby inflicting further injury.

Everyone who owns a dog or deals with a dog professionally or as a hobby should be in a position to render First-Aid in a serious emergency, to control the extent of injury or to save a dog's life. It is not possible within the scope of this small publication to cover every type of problem situation or emergency. The manipulations and practical techniques should be practiced on healthy animals, so that these techniques can be mastered rapidly and confidently in an emergency.

In the interest of our dogs, it would be very pleasing for DVG Club and Regionsto conduct one or more First-Aid courses under the guidance of a veterinarian. A book on First-Aid for dogs would also be of great help. A noteworthy example is:

"DOG OWNER'S HOME VETERINARY HANDBOOK"

by Delbert G. Carlson, D.V.M.

and James M. Giffin, M.D.

Published by: Howell Book House, Inc.
 230 Park Avenue, New York, N.Y. 10169

and/or

"YOUR DOG", His Health and Happiness

by Louis L. Vine, D.V.M.

Published by: Arco Publishing Company, Inc.
 219 Park Avenue South, New York, N.Y. 10003

GENERAL COMMENTS

The term "First-Aid" means, emergency care and treatment given to the ill or injured before professional medical care can be obtained. In the case of dogs that would be a veterinarian {vet}. If there exists any doubt about whether or how soon this help should be obtained, a telephone call to your veterinarian will help determine this. **Every dog owner should always carry with him the exact address and phone number of his veterinarian, and should always know the hours when the vet can be reached. Emergency 24-hour Clinic phone numbers for evenings, weekends and holidays should also be on hand!** This information should also be known in advance for all dogsports events.

Should an emergency occur and the animal has to be taken to the vet, it is appropriate to notify the vet by phone of the impending visit and anticipated arrival time. This will allow for preparatory measures in the veterinary clinic in advance.

Any First-Aid is only as effective as the conditions and resources permit. A thoughtfully prepared First-Aid Kit will provide valuable service. It may be kept in a closet in the clubhouse, or carried with you in the car in the form of a portable kit.

FIRST-AID KIT: BASIC SETUP

[The following items can be obtained through a pharmacy, from your vet, or from a medical supply store. MAKE SURE THE "STERILE" ITEMS ARE SEALED IN UNBROKEN WRAPPINGS SO THEY REMAIN STERILE TILL NEEDED!]

- 1.) Pocket Flashlight: Powerful enough to allow detailed examination of eyes and ears under bad lighting conditions.
- 2.) Scissors: To remove hair from around wound edges, and for cutting of bandage materials. Because of danger of cutting the patient, the scissors should have rounded tips and be slightly curved (grooming supply houses sell this type of scissor).
- 3.) Tweezers: For removing smaller foreign bodies such as thorns, foxtails, insect stingers.
- 4.) Fever thermometer (rectal type).
- 5.) Wooden stick (1" wide, 6" long): For making a tourniquet.
- 6.) Thick, rolled-up newspaper: For use in making a leg splint.
- 7.) Flat rubber tubing: For making a tourniquet.

- 8.) Wide elastic bandage or piece of rolled rubber tubing (about 3 feet long): For making a muzzle.
- 9.) Hot water bottle: for hypothermia/shock.
- 10.) Cold pack (which does not have to be pre-cooled - get this from a pharmacy): For heatstroke, swelling, bleeding.
- 11.) Sterile wound compresses (dressings): For covering open wounds. (*i.e. "Steri-Pads", gauze 4" x 4" sponges*)
- 12.) Cotton balls: For dabbing on of wound antiseptics.
- 13.) Rolled cotton "wool" (2 rolls, 4" wide): For padding under bandages/dressings.
- 14.) Rolled gauze bandage (3 rolls, 4" wide): For bandaging.
- 15.) Rolled elastic adhesive bandage (3 rolls, 2" wide): For fixation (securing) of dressings/bandages.
- 16.) Elastic bandages (Ace wrap) 4" and 6", one roll of each size: For bandaging the chest and stomach.
- 17.) Bottle of 3% Hydrogen Peroxide: For cleansing of wounds.
- 18.) Wound salve (antibiotic or antiseptic ointment): Obtained from vet or pharmacy; for care of minor small wounds.
- 19.) Blankets: For hypothermia, shock and transport. Have two heavy ones.
- 20.) Stout lead and choke-chain: For restraint of strange animals (or your own).
- 21.) Boric acid solution - in plastic spray bottle: For eye-washing.

Special medications may be included in the First-Aid Kit only upon consultation with the veterinarian. Their purpose and method of use must be known to all persons who have access to these medications. Attention must be paid to the expiry dates on all veterinary medications.

IMMEDIATE PRIORITIES:

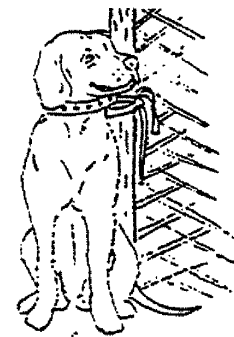
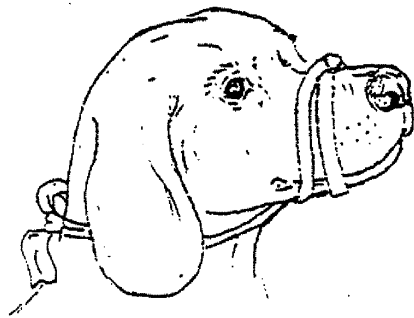
Of highest priority in the administration of First-Aid to an animal is the safety of all persons involved. Wounded or injured animals, suffering the effects of shock, fear and pain, defend themselves vigorously through biting and defensive movements against helping efforts- **(even your own animal may do so!)**

Always approach an injured animal cautiously and slowly, especially if it is a strange animal. Speak to the animal in a calm voice, even when this is often difficult. Notice the reactions of the animal precisely - even helping hands can be bitten.

Always put the animal on lead as soon as possible so that it will not run from you. If you are by yourself, tie the animal to a firm object such as a fence post. Pull the animal's head as close as possible to the object and tie the line onto it very short. This will limit the freedom of movement of the dog's head to protect the person(s) from the dog's attempts to bite.

It is recommended that at this point you bind the dog's jaws closed. To do this, one helper should hold the dog's head firmly from behind on the left and right of the head. A second person prepares a loop in the middle of a length of bandage, holding the bandage with the loop's knot at the upper portion of the loop. From the front, the noose is laid around the dog's muzzle and then tightened firmly (knot on top of muzzle). Cross the ends under the dog's muzzle and then bring them around the nape of its neck and tie them securely in a bow, so you can release the muzzle quickly if necessary). This whole procedure should be carried out quickly, confidently and smoothly before the dog can avoid the noose through defensive reaction.

If no muzzle-making bandage is at hand, securing of the jaws can be accomplished with a leash which is fastened to the collar, then looped 2-3 times around the jaws, and then fastened again securely to the collar.



IMPORTANT NOTE:

In the following situations, a muzzle-bandage should NOT be used:

- 1) Loss of consciousness.
- 2) Heatstroke.
- 3) Difficulty breathing/nosebleed.
- 4) Injury in the region of the fangs.
- 5) Impairment of the heart or circulatory function.
- 6) Vomiting at short intervals.

If a muzzled dog shows signs of any of the conditions listed above, during the administration of First-Aid or during transport, **the muzzle must be removed immediately!**

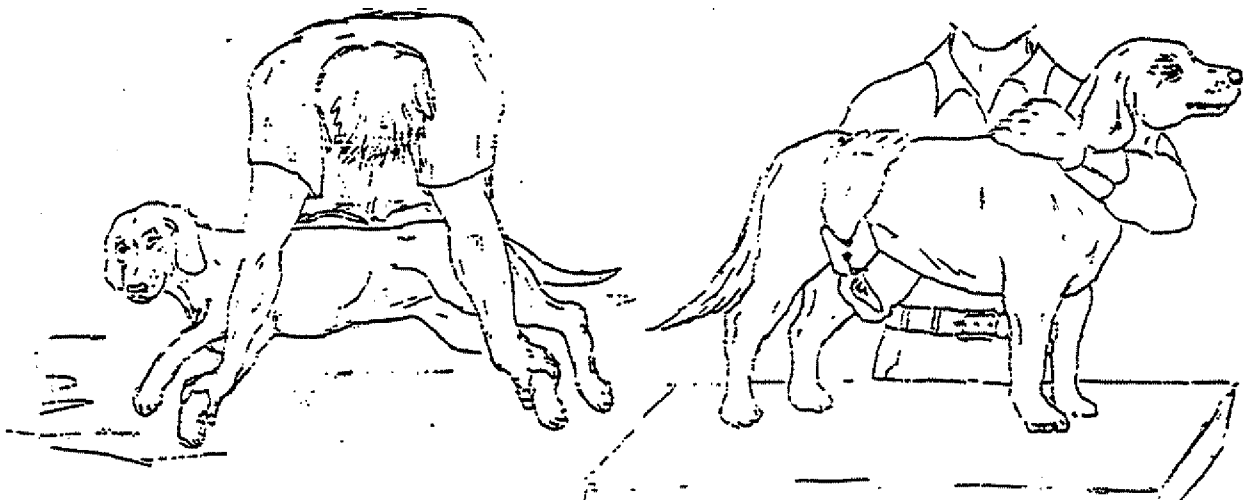
The calming of the animal should, when possible, be taken over by a person whom the animal trusts. He/she should hold the animal's head and soothe the animal by gentle stroking and speaking quietly.

In order to properly examine or treat an injury, it is essential to bring the dog into a position in which the examination/ treatment is easily possible, and in which he can be restrained calmly.

In the sitting position, with the head well restrained, injuries to the head, neck and back can be attended to.

In the standing position, injuries of the rump, the upper limbs and the tail can be attended to. Seldom will dogs remain standing still by themselves. An assistant should hold the dog with one arm under its neck and the other arm under the belly, while pulling the dog in towards him.

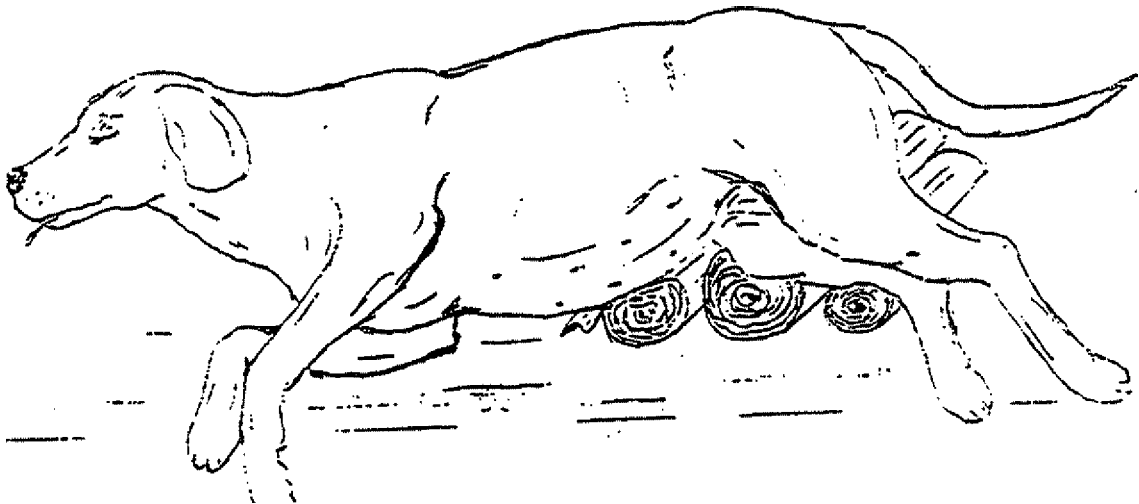
When presenting with injuries in the region of the lower limbs, the dog should be laid down on his **uninjured** side and held down, not roughly but definitely and firmly. An assistant can greatly lighten the work of the First-Aid-giver by maintaining a stretched grip on the healthy legs (**SEE DIAGRAMS BELOW**):



TRANSPORT SICK OR INJURED ANIMALS:

If animals must be transported, let them if possible walk on their own legs to the car or into the veterinarian's office. If they can barely go on their own feet, or not at all, they must be very carefully carried. **The dog should not be carried with its injured side toward the person carrying it.** When injuries involve the upper parts of the limbs especially, these should be allowed to hang free.

If one suspects pelvic fractures, the rear part of the dog should likewise be allowed to hang free. (See sketches below):

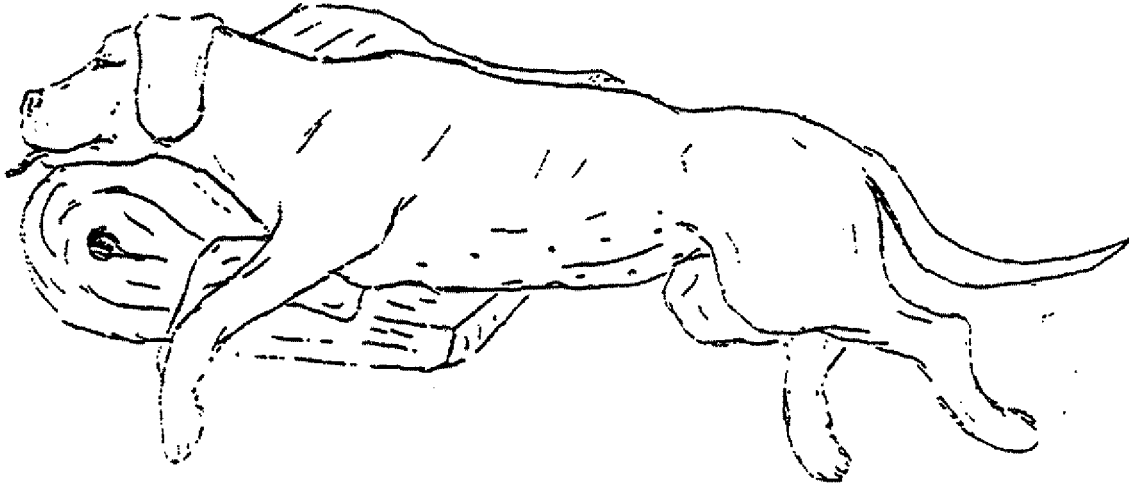


On the journey to the vet, a trusted person should always go along, who can provide a comfortable yet secure restraining/ positioning of the animal.

Severely injured or sick animals, and animals in severe pain, who are unable to stand on their own, should be allowed to lie down from the very beginning. Smaller animals can be carefully laid in a basket. Larger animals should be pulled onto a spread-out blanket and carried on the blanket, with at least two people holding the blanket stretched tight between them. If spinal injuries or multiple fractures are suspected, or if the dog shows severe pain when transported in this manner, then a hard flat carrying platform must be inserted under the blanket, such as a board, closet door etc. - and this must fit into the vehicle with the dog during transport. If a suitable support cannot be found, then the First-Aid-giving people must support the dog's body in a way that will avoid any slackness during carrying.

Unconscious animals are always transported lying on their side. If you are presented with a circulatory shock situation, the head of the animal should be positioned low and the hindquarters positioned higher. If there is respiratory distress, the animal's head is positioned higher than the hindquarters.

SEE DIAGRAMS BELOW:



EXTERNAL INJURIES:

1.) Minor injuries of the skin.

In the case of small surface wounds involving only the skin, it is recommended that the hair in the region of the wound be trimmed off, in order to avoid gumming up the hair with blood and wound secretions. The wound should be cleaned with a non-irritating wound antiseptic such as **3% hydrogen peroxide**. This will at the same time control any bleeding. Finally, a wound salve (ointment) or wound spray should be used. Only in exceptional cases will a bandage or an Elizabethan collar be necessary, such as when the dog disturbs the wound-healing by constant licking. The progress of the wound-healing should be regularly monitored.

Summary:

- a) Clip hair around wound edges.
- b) Wound cleaning; wound disinfection; control bleeding with 3% hydrogen peroxide.
- c) Wound salve (ointment); wound spray.

2.) Minor injuries of the skin in the area of the eyes and/or the external ear canals.

In principle, minor injuries in these areas are treated exactly as in (1) above. **However, under NO circumstances should peroxide or other antiseptic agents be allowed to contact the eye tissues or gain entrance into the ear canal, as this could produce severe tissue damage.** If in doubt as to whether or not disinfection can safely be accomplished in

these areas, it is better not to disinfect. For wound care in these areas, special eye ointments/ear medications must be used, because regular wound salve or skin ointments can cause severe irritation to the eyes or ear canals.

Summary:

- a) Clip hair around wound edges.
- b) Very cautious wound cleaning.
- c) Special eye ointment/ear ointment.

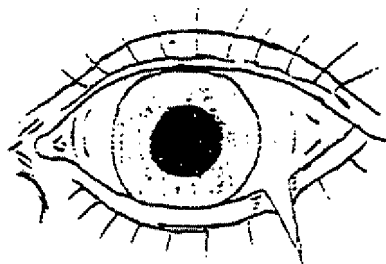
3.) Injuries to the eyelids.

These injuries must always be examined and treated by a veterinarian. The vet must determine whether the eye itself is involved as well. Infection of eyelid wounds can cause severe eye inflammation. In cases of major disruption of the lid corners, this wound must always be sutured, as it will definitely not heal together on its own. The result will otherwise be chronic irritation and inflammation, especially of the conjunctiva (the pink lining inside the eyelid).

The sooner that veterinary treatment can be obtained, the better the chances will be for good repair and healing. **First-Aid in these cases is limited to restraining the dog from rubbing or scratching at the eye.** Do NOT put any type of medication in the eye as this will make it more difficult for the veterinarian to examine and treat the eye!

Summary:

- a) Restrain the dog from scratching or rubbing the eye.
- b) FAST transport to the veterinary hospital.



4.) Abrasion injuries.

Minor abrasions are treated as in (1) and (2) above. Large surface abrasions, as in traffic/street accidents, always require veterinary treatment as the threat of infection is very great. When possible, the wounds may be covered with sterile wound compresses, but these should be moistened with 3% hydrogen peroxide so that the wounds will not dry out and the compresses will not become stuck to the wound surface(s). The wound compresses should be held in position with a loose bandage or only with adhesive tape. Here also, the dog must be kept from irritating the wounds by licking and/or scratching.

Summary:

- a) Restrain dog from licking/scratching/rubbing.
- b) Minor injuries: Treat as in (1) or (2) above.
- c) Large injuries: Sterile wound compresses moistened with 3% peroxide; held in position with loose bandage or adhesive tape.
- d) Transport to the vet.

5.) Cuts and lacerating injuries.

Cuts generally have smooth wound edges, while lacerations more often have ragged wound edges. Whether such a wound requires suturing is to be determined by the veterinarian. Often it is not possible to tell at first glance whether or not deeper-lying structures are disrupted (tendons, muscles, nerves, ligaments, joint capsules.) **The wounds should never be treated with antiseptics, wound salve or wound spray because this is likely to cause serious compromise of the conditions required for a good surgical outcome.** Here also, the fastest possible obtaining of veterinary intervention is the primary immediate goal. The highest chance for good healing, for instance in the suturing of tendons, can be obtained **only within the first 4 to 6 hours after the injury.**

Small cuts or lacerations are handled as under sections (1) and (2) above. Cuts, above all other injuries, tend to have serious bleeding. Severe bleeding is handled with sterile covering (compresses) followed by application of a well-padded pressure dressing.

When dealing with areas of the body which do not lend themselves well to the application of a pressure dressing (i.e. the neck), an assistant should compress the wound (after it has been

covered with a sterile compress) during transport to the vet. If blood seeps through the compression dressing and/or the sterile wound covering, do not remove it, but instead, add more compression bandaging and increase the amount of compression.

In case a pressure dressing does not stem the bleeding, or there is no bandage material available, hemorrhage from wounds of the limbs and tail can be stopped by applying a tourniquet. Rubber tourniquets should be placed only on heavily muscled body regions, never over tendons (i.e. the Achilles tendon) where they can cause severe damage. A rubber tourniquet should be tightened only enough to stop the bleeding, never any tighter. The tourniquet should be placed a few inches **above** the wound, measuring from the wound **toward the heart**. Then, the transport to the vet must be made as quickly as possible. If the vet hospital is located some distance away, the tourniquet should be loosened every 15 minutes for a period of 1 to 2 minutes. Remember that the tourniquet hinders the escape of blood from the wound on one side, but on the other side of the wound the necessary blood circulation to the bound-off body part continues to flow into that body part without interruption.

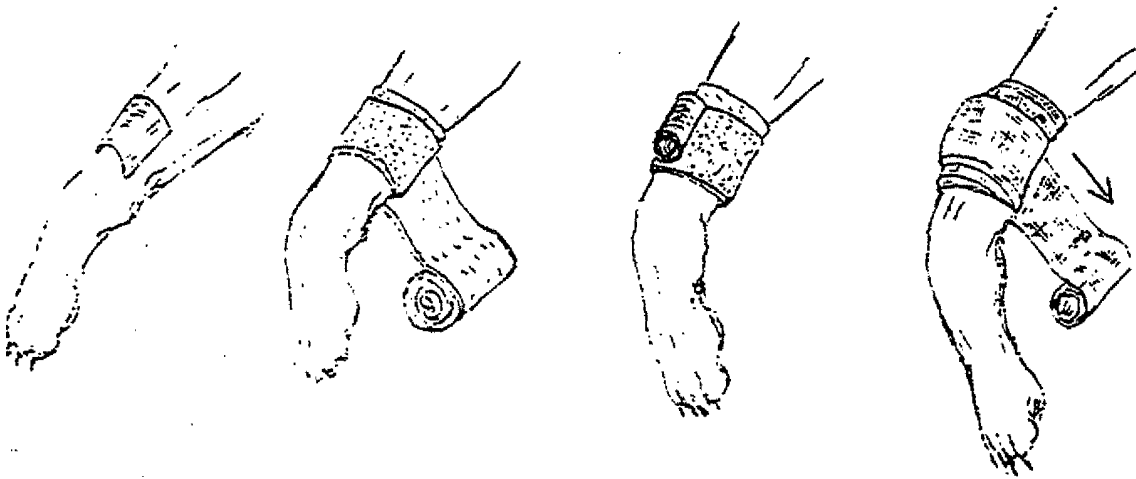
Summary:

- a) Restrain dog from licking/scratching/rubbing.
- b) Minor injuries: Treat as in (1) or (2) above.
- c) Larger injuries:
 - 1) Sterile wound compresses.
 - A. Secure in position with tape//maintain compression by hand.
 - B. Apply pressure dressing.
 - 2) Apply tourniquet (on the side of the wound towards the heart!)
 - A. Release tourniquet every 15 min. for 1-2 min.
- d) Transport to the vet as fast as possible.

5.)A.) Application of a pressure dressing.

After sterile covering (*i.e.* sterile gauze) has been applied to the wound, padding material in the form of rolled cotton is wrapped around the leg. Then place a rolled up gauze roll, or a roll of wadded-up Kleenex or etc., on top of the covered wound and parallel to the leg, laying it across the wrapping already on the leg (**SEE SKETCH BELOW**). Secure the roll into place with another length of bandage, tightening it only enough to prevent blood from seeping through the dressings. Apply strips of adhesive tape to the surrounding skin to keep the entire dressing from slipping out of place.

As with the rubber (flat tubing) tourniquet, **the pressure bandage must NOT be "just left in place" for an arbitrary period of time.** The vascular walls of veins are weaker than the muscular walls of arteries; therefore the veins are more easily compressed than the arteries. Thus, when a pressure bandage has been placed on a leg or a tail, blood may still stream forcefully through the arteries into the foot or the tail tip, but the blood is no longer draining out (back to the heart) through the veins, because the thin-walled veins are compressed with much less pressure than it takes to close off the thicker arteries. **Thus, the blood will "dam up" or accumulate in the pressure-banded foot/tail.** Then the foot/tail will swell up, and if this occurs, the pressure-dressing **MUST IMMEDIATELY** be loosened or removed. Then, with very careful massaging of the foot/tail toward the heart, and cautious manipulation (movement) of the foot/tail, the swelling will go down as the accumulated blood slowly returns to the central venous circulation once the veins are no longer compressed. **SEE DIAGRAMS BELOW:**



5.)B.) Application of a direct arterial pressure TOURNIQUET.

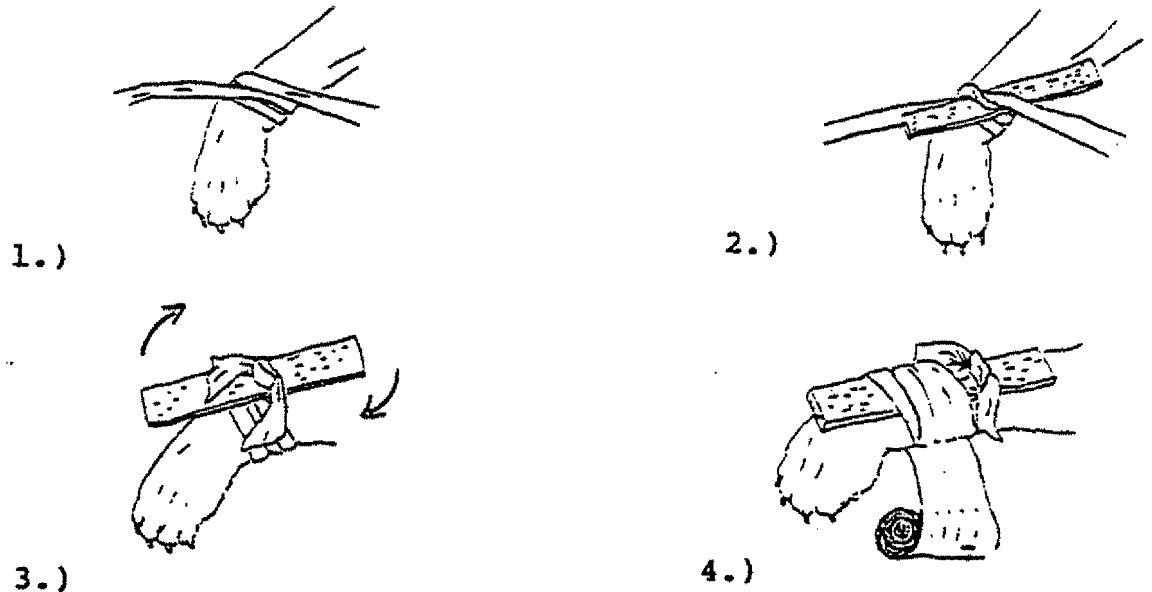
ALWAYS apply the arterial tourniquet on the side of the wound nearest to the heart, a few (3 or 4) inches above the wound (leave only enough space between the wound and the tourniquet to allow a sterile covering to be placed over the wound).

USE A WIDE BINDING MATERIAL (minimum 1" - 2") such as a length of wide rubber floppy tubing. If you do not have a length of rubber tubing available in an emergency, you can make do with a piece of wide elastic cloth bandage ("Ace" bandage is good), or a man's necktie, a wide flat leash, leather or cloth belt, etc. **NEVER USE A THIN LEASH, CORD OR WIRE!!!**

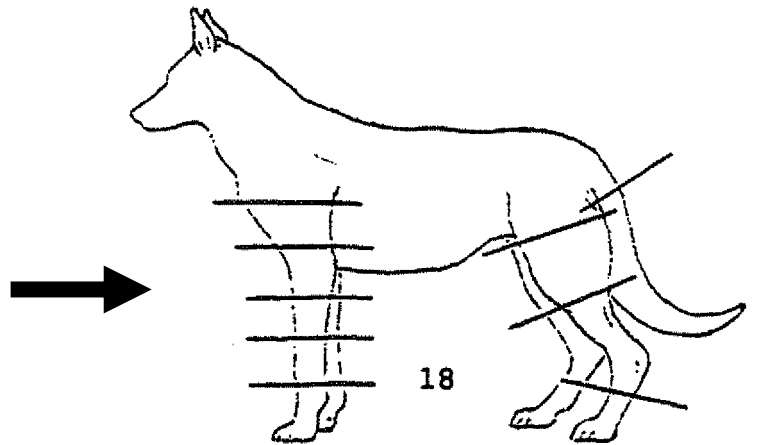
Wrap the wide material 2 or 3 times around the limb and knot it, enclosing in the knot a short wooden stick (SEE DIAGRAMS BELOW.)

The wooden stick will now be turned SLOWLY, like a screw is turned, *until the bleeding stops*. In order to prevent the wooden stick from reversing itself and unwinding and loosening the pressure, secure it in place with a piece of bandage. Now make the fastest possible journey to the veterinary hospital.

DIAGRAMS FOR ARTERIAL PRESSURE TOURNIQUET PLACEMENT:



**PLACES WHERE
TOURNIQUETS
MAY BE
PLACED
ON LEGS**



6.) Stab/puncture wounds and gunshot wounds.

These injuries must always receive veterinary evaluation and treatment. Often the depth of the wound and the resulting possible internal injuries are very difficult to evaluate. There is great danger of infection because virtually always there has been hair and dirt introduced deep into the wound. Such wounds are especially dangerous in the area of the neck, the chest and the abdomen because large blood vessels and/or vital internal organs may be injured.

As soon as a sterile covering has been applied over the wound(s), the veterinarian must be consulted IMMEDIATELY.

Summary:

- a) Sterile wound compress(es); bandage as necessary.
- b) ** Shock: See #17.

** Penetration of chest cavity: See #11.

** Penetration of abdominal cavity: See #12.

** Severe bleeding: See #5, 5A, 5B.
- c) Transport to the vet as fast as possible.

7.) Bite wounds.

The real degree of injury with any bite wound, even when bleeding is minimal, is virtually always greater than what is visible externally. Crushing and bruising of underlying tissue such as muscles and bone surfaces is virtually always present and causes severe pain and lameness. Injury to joints and bones occurs primarily in bite wounds of the limbs. It is common for the skin of the undersurface of a bitten limb to be ripped right off, resulting in huge, gaping wound-holes. **All bite wounds must be considered to be infected.** Veterinary evaluation and treatment is always advised. The type of First-Aid needed is determined by the extent of the injuries.

You should always know the date of your dog's last rabies vaccination OR carry your dog's shot record with you to the vet.

Summary:

- a) Small bite wounds: Treat as under #1 and #2.
- b) Larger bite wounds or heavy bleeding: As in #5.

** Penetration of chest cavity: See #11.

** Penetration of abdominal cavity: See #12.

** Bone fractures: Closed fractures: See #16.A. Open fractures: See #16.B.

- c) Shock: See #17
- d) Ice packs: Use for pain relief, limitation of swelling, and control of bleeding.
- e) Transport to the vet as fast as possible.

8.) Injuries caused by foreign bodies.

Small foreign bodies such as thorns, goat-heads, visible foxtails, or glass/wood splinters may be removed carefully under adequate light with tweezers. **Larger foreign bodies should always be left in the wound.** The veterinarian receives valuable information from seeing the position of the foreign body before it has been moved or manipulated. Often a foreign body seals off or plugs an injury and prevents it from bleeding. If it is pulled out or moved, life-threatening hemorrhage may occur which you may be unable to control as a result.

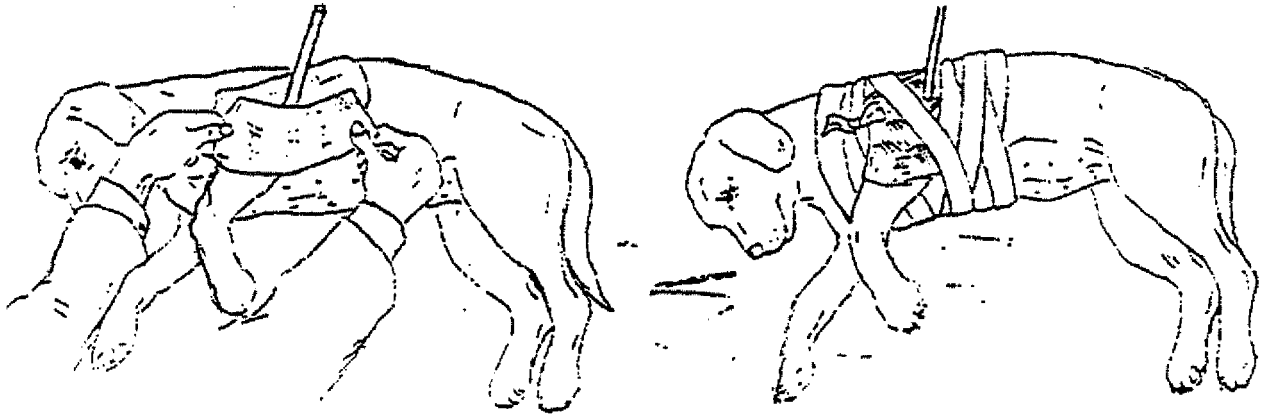
Should the foreign body become dislodged by itself, take it with you to the vet and show the vet EXACTLY where it was lodged and how it was positioned, and how deeply it had traveled into the tissues. Here also, the appropriate First-Aid measures are determined by the type and extent of the injury. If the wound is bleeding, dab it with 3% hydrogen peroxide, cover it with a sterile compress, and apply a well-padded, not overly tight bandage. **The foreign body must be accommodated by the dressings in such a way that no pressure is exerted on the foreign body.** Do not joggle the foreign body back and forth unnecessarily as that could cause severe pain to the dog.

Summary:

- a) Small foreign bodies: Remove with tweezers; wound care as in #1 and #2.
- b) Larger foreign bodies: ALWAYS leave lodged in place.
- c) Dab wound with 3% hydrogen peroxide.
- d) Sterile wound compress and careful bandaging that integrates the foreign body without causing pressure on it.
- e) If no bleeding: Immediate transport to vet hospital.
- f) ** If bleeding: As in #5.
** If shock: As in #17
- g) Transport to the vet as fast as possible.

***** NOTE: The animal should be moved as little as possible since movement of the foreign body could cause further injury. The animal should be carried, or placed on a stretcher or blanket and carried.

SEE DIAGRAMS BELOW:



9.) Injuries to the feet.

The dog's feet are a body part that has very good blood circulation. Wounds in this region tend to bleed a lot, but the bleeding is seldom life-threatening - therefore no need to panic!! Wounds of the pads and nails also frequently bleed very hard. These wounds must always be protected immediately from further contamination and irritation by licking. This is done with a well-padded foot dressing.

Foot dressings must be applied with a special technique if they are to function usefully and yet do no further harm to the foot. The skin between the dog's toes, and between the pads, is one of the few skin areas of the dog that contain sweat glands. If a foot bandage consists simply of bandage loops wrapped around the foot, then whenever the dog bears weight on that leg, the bones of the toes will be painfully jammed and pressed together inside the dressing. Through absorption of sweat under the dressing, the skin wound will become increasingly chafed

The decision as to whether suturing of a foot wound should be done is a decision which must be left to the judgement of a veterinarian. Pad wounds most of all heal poorly and very slowly. Toenails which are broken or only partially torn out will cause severe pain upon movement of the loose nail fragments. **Nail injuries are especially prone to infection.** The nailbed and underlying bone are extremely susceptible to infection. If the horn portion (hard outer shell) of the nail is torn off, the nail bone lies free and exposed!

Wound care begins with cleansing with 3% hydrogen peroxide. Loose nail portions should be removed **with a bold, very fast jerk** (best accomplished with a strong grasping forceps or

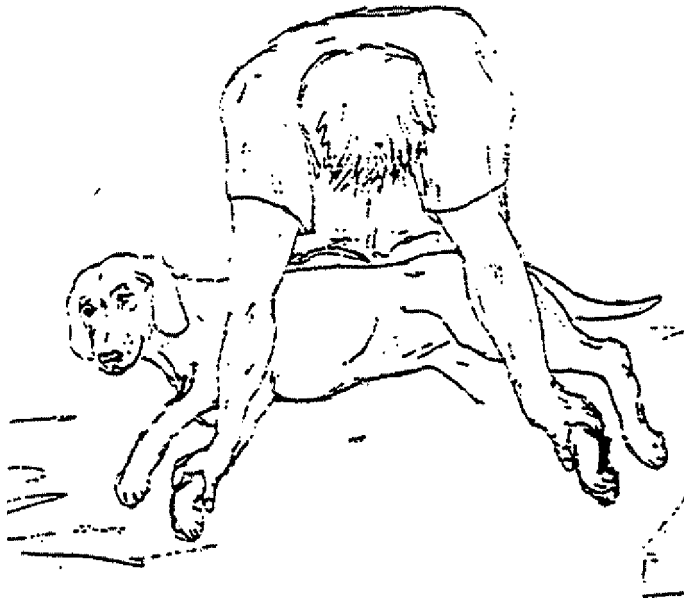
small pliers). After sterile covering, a well-padded foot bandage is always applied. If the dressing is extremely well padded, one may increase compression of the foot by tightening the dressing structure in the same manner as with a pressure-dressing (see #5 described earlier). Should these measures fail to succeed in controlling bleeding, a tourniquet may be applied over the upper portion of the padded foot dressing.

Summary:

- a) Cleanse with 3% hydrogen peroxide.
- b) Apply sterile wound compress.
- c) Apply a well-padded foot dressing; if bleeding, add pressure dressing.
- d) If still bleeding: Apply tourniquet over the upper portion of the padded foot dressing.
- e) Immediate transport to vet hospital.

9.A.) Applying a foot dressing. (SEE DIAGRAMS BELOW)

The dressing (bandage) will always be wrapped up to a point above the hock (rear leg) / carpal or "wrist" joint (front leg), so that the dressing will sit securely in place and cannot work its way downward out of position. It should fit well to the shape of the foot in a standing position. It is best to lay the dog flat on its side with the injured side upward. Assistant #1 restrains the dog on the floor/table by holding the two underneath legs (front and rear) firmly, so as to prevent the dog getting up.



Note:
Hands should grip
above the joint!
(Wrist or Hock)
Elbows pressed
gently down to
restrain dog

A SECOND assistant should hold the injured leg steady in an extended position. In order to hold the injured leg in the proper position, Assistant #2 only has to exert moderate hand pressure by "cupping" his hand over the **BACK SIDE** of the elbow joint (front foot injury) or over the **FRONT SIDE** of the stifle ("knee") joint (rear foot injury). The leverage produced by this SIMPLE hand-pressure position will "lock" the leg joints and keep the leg in an extended position, preventing any movement of the leg further down, and will allow the First-Aid-giver to work quickly and smoothly without interference. NEVER NEVER restrain or extend an injured leg (or even an uninjured one) by grabbing hold of the leg/foot and PULLING on it!!! That will only cause great unnecessary pain and further damage to an injured limb. ALSO: Always assemble (within easy reach) ALL of the supplies you will (or might) need BEFORE you restrain the dog - a dog's patience is not endless!

<u>Supplies you will need:</u>	<u>Front Leg</u>	<u>Rear Leg</u>
Padding strips (rolled cotton wool) 2" wide, cut to 6" long:	4	3
Wide padding (rolled cotton wool) 4" wide, cut to 12" long:	1	1
Sterile wound compress (4" x 4" Steri-Pad or 4 x 4 sterile gauze surgical "sponges" etc.):	1	1
Full roll of cotton wool for padding under bandages (suggest 3" or 4" width):	1 (At least)	1 (At least)
Rolled elastic gauze bandage (i.e. "Ace" bandage (suggest one 2" roll and one 3" roll):	1 – 2	1 - 2
Adhesive tape strips 2" x 8" :	5 – 10	5 - 10
Cotton balls:	large handful	large handful
Hydrogen peroxide 3%	bottle	bottle

The first step is thorough cleansing of the wound, followed by application of a sterile compress. In the case of small wounds that will definitely not require suturing, wound salve (antiseptic ointment) may be applied after cleansing with peroxide and before applying the sterile compress.

With all other wounds (those which will or might need suturing, or might have foreign material in the wound, or might need repair of bones or soft tissue or are bleeding etc.): After cleansing with peroxide and placement of a sterile compress, the next step is placement of padding between the toes. Place generous amounts of cotton balls between all the toes and between all the pads. Now with your thumb, hold one end of the small (2") cotton padding strips (one at a time) firmly against the upper side of the foot. Lead each strip down the front of the foot, going between two of the toes, around under the foot and up the back side of the foot where you can then grab the end of each strip with your other hand and hold onto it. On the front foot, the fourth small cotton padding strip should be wrapped several times around the foot over the region of the dewclaw (after you have placed one or two cotton balls in the web space between dewclaw and foot), so that the dewclaw also will have adequate padding.

The wide cotton padding strip (4" x 12") will now be laid from the front side of the foot around to the back side of the foot and held there. Then, one of the rolls of cotton padding will be used to wrap around the foot in a circular direction, going from the tip of the foot and continuing spirally up the foot to a point just above the carpal ("wrist") joint (front leg) or just above the hock joint (rear leg). **Do not apply this wrapping too tightly.** Finally, one of the elastic gauze rolls is wrapped around the foot in the same direction and manner as was used in the previous step with the rolled cotton, in order to keep the rolled cotton from working itself loose and coming off. The elastic gauze is wrapped in such a way that it will give the completed foot dressing its final shape, in which it will precisely fit the contours of the foot.

The weight bearing surface of the foot dressing must not be covered by the adhesive strips. The adhesive strips are applied to the non-weight bearing surfaces in just enough places to hold the foot dressing wrappings securely in place. In all cases, a circular adhesive band should be applied around the uppermost rim of the foot dressing and also around the upper half of the dog's carpal pad (front leg) to hold the dressing in place.

9.)B.) Footsores pads. (SEE DIAGRAMS FURTHER BELOW)

Above all, it is at the AD test that we are occasionally presented with dogs with footsores pads. The feet should be cleansed with cold water and cooled. After procuring a wound spray, it is sufficient on occasion just to restrict the dog for the next few days to as little running as possible, and only on a soft surface. If the feet are more severely worn, the dog should be made to wear socks continuously to prevent contamination and irritation through licking. The socks, like the foot dressing, should be pulled up to above the hock joint (carpal or "wrist" joint in front leg) LOOSELY and fastened there by means of adhesive strips stuck

to the hair. Above all, on the hind leg there must be NO strong pressure placed on the Achilles tendon! This means that you must use plenty wide rolled cotton padding here, under the sock. Naturally the dog is to be pulled immediately from the AD test.

DIAGRAMS:



1.) Front foot

2.) Hind foot

10.) Injuries to the region of the head.

A.) Injuries to the ears.

1.) Bleeding wounds:

Bleeding wounds to the ears result mostly from bite injuries, lacerations and cuts. Above all, the dog will usually keep shaking his head, and when he does, the wound will always start to bleed again. You should press a sterile wound compress **firmly** against the wound and then press this and the ear flap together. Then have an assisting person place a thick padding of rolled cotton on top of the dog's head. Then gently but firmly pull the ear flap with its compress upward and lay it over the top of the dog's head on top of the cotton padding, and then place a thick padding of cotton or other absorbent clean padding over the exposed inner side of the ear flap. For the present moment, you can easily secure this **preliminary** dressing in place by cutting an appropriate length of a woman's nylon stocking and inverting it over the dog's head like a wool cap. However, **you should also apply a head-dressing** at this point using wide gauze or elastic bandage, and fastening this to the dog's skin with strips of adhesive tape. Then you carry out the fastest possible trip to the veterinarian.

***** EAR BANDAGING DIAGRAMS NEXT PAGE: *****

Summary:

- a) Cleanse wound with 3% hydrogen peroxide.
- b) Sterile wound compress: Apply firmly over wound and then press both sides of ear flap against one another.
- c) Rolled cotton padding: Apply to inner and outer sides of the ear flap.
- d) Section of nylon stocking cut to fit and pulled over dog's head like a wool cap.
- e) Apply head-dressing, using wide gauze or elastic "Ace" bandage.
- f) Place adhesive tape strips to secure dressing to skin.
- g) Immediate transport to vet hospital.



PUT ONE HAND FLAT AGAINST THE NON-INJURED SIDE OF EAR -

WITH OTHER HAND PLACE A STERILE WOUND COMPRESS OVER THE WOUND AND FIRMLY PRESS YOUR HANDS TOGETHER, THUS PRESSING BOTH SIDES OF EAR FLAP AGAINST EACH OTHER



PLACE PAD ON HEAD

PLACE EAR FLAP OVER THE HEAD, ON TOP OF PAD, KEEPING PRESSURE ON THE WOUND COMPRESS.

THEN COVER EXPOSED EAR FLAP WITH ANOTHER THICK PAD.



NOW,



QUICKLY ROLL A PIECE OF NYLON STOCKING OVER THE HEAD TO HOLD PADS + EARS IN PLACE WHILE YOU WRAP WITH GAUZE AND TAPE EDGES TO SKIN

FINISHED HEAD-DRESSING: (INJURED EAR ON TOP OF HEAD AND OTHER EAR LYING AGAINST SIDE OF HEAD UNDER BANDAGE)

A.) Injuries to the ears (continued)

2.) Hematoma (blood blister) of the ear:

Intense or continuous scratching of the ear, as well as ear-shaking (especially if the ear flap smacks against a wall or other hard surface during shaking) (**and also being struck on the ear!**) are events which are likely to cause the rupture of one or more of the many blood vessels that lie inside the ear flap. When this occurs, the ear flap becomes extremely thickened and on careful examination it feels like a water cushion (something like an overfilled rubber hot-water bottle.) The dog must be prevented from any further scratching or shaking of the ear. Gentle pressure with an ice-bag may hinder further bleeding. You should contact your veterinarian promptly regarding further treatment and handling of this injury.

Summary:

- a) Apply ice pack to retard bleeding and swelling.
- b) If necessary apply head-dressing as described and diagrammed under #10.)A.)1.) above.

Important note: FAILURE TO OBTAIN IMMEDIATE PROPER VETERINARY TREATMENT FOR AN EAR FLAP HEMATOMA IS EXTREMELY LIKELY TO RESULT IN THE DOG'S EAR BECOMING A "CAULIFLOWER EAR" - PERMANENTLY CRUMPLED AND DISFIGURED FOR LIFE. This usually happens if you wait a few days before seeking treatment, and the loose blood then has time to form clots and separate the ear flap cartilage from its overlying skin, and fibrous tissue scarring begins. Such an ear may never be able to be returned to its former beautiful shape. So if you value your dog's appearance, DON'T WAIT BEFORE GOING TO THE VET, NEVER TRY TO "FIX IT" YOURSELF, AND ALWAYS PERFORM THE AFTERCARE ADVISED BY YOUR VET TO KEEP THE REPAIRED EAR FLAP UNDER PRESSURE AND PREVENT ANY FURTHER SCRATCHING/SHAKING/PAWING AT THE EAR. SUCCESSFUL TREATMENT INVOLVES MUCH MORE THAN JUST DRAINING OUT THE LOOSE BLOOD! THE EAR FLAP USUALLY MUST HAVE SUTURES PLACED THROUGH IT FROM ONE SIDE TO THE OTHER, AND MUST ALWAYS BE KEPT UNDER PRESSURE UNTIL THE TISSUES HEAL, IN ORDER TO OBLITERATE THE CAVITY CAUSED BY THE BLOOD LEAKAGE. WITHOUT THIS TYPE OF CARE, THE BLOOD BLISTER CAVITY WILL REMAIN AND BLEEDING WILL START AGAIN, FURTHER SEPARATING THE CARTILAGE FROM THE SKIN AND THE EAR WILL REPAIR ITSELF WITH FIBROUS SCARRING THAT WILL CONTRACT AND CRUMPLE THE EAR.- AND ALWAYS MAKE SURE YOUR VET HAS FOUND AND TREATED THE PROBLEM THAT CAUSED THE DOG TO SCRATCH/SHAKE IN THE FIRST PLACE! That could be ear mites, ear infection, ear wax plugging, foreign body such as a foxtail awn etc.- or heavy hair growth in the ear canal in some breeds- among many other causes.]

B.) Injuries to the eyes.

1.) Injury to the cornea:

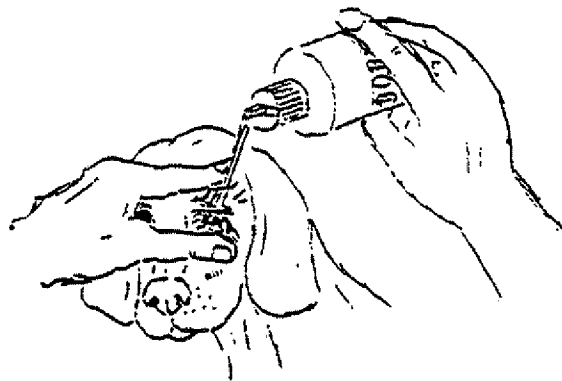
The dog will frequently squint the affected eye tightly shut. Increasing flow of tears may be present, and often the dog will paw at the eye with his front foot in an attempt to scratch at it. Occasionally one can see an injury or a milky cloudiness on the surface of the normally transparent, smooth cornea. **Never try to treat this type of injury yourself: Very specialized handling and medications are necessary for proper treatment!** You should make every effort to prevent the dog from scratching/pawing at the eye, and consult the nearest veterinarian immediately.

2.) Corrosive injury to the eye:

Irritant materials that contact the eye will usually cause severe damage. The dog will squint the eye shut, will have increasing flow of tears, and will try to rub or scratch at the eye. You should immediately begin flushing out the eye. **SEE DIAGRAM ON TOP OF NEXT PAGE.** The dog must be restrained by an assisting person who must make sure the head is held still. With your thumb and forefinger, spread the eyelids as wide apart as you possibly can. Flush the eye out thoroughly with a dilute solution of boric acid (obtainable from a pharmacy), or with lukewarm water. You should repeat the eye-flushing procedure at least 3-4 times. **The dog must be protected from self-injury by scratching at the eye.** You should then take the dog to a veterinarian immediately.

Summary:

- a) Flush out the eye several times (lukewarm water/dilute boric acid solution).
- b) Prevent the dog from scratching/rubbing the eye.
- c) Transport to the vet.



3.) Foreign bodies in the eye:

Never attempt to pull out a foreign body that is imbedded in the eye. A foreign body that is lying loose within the conjunctival sac (the little pocket of pink membrane lying between the lower lid and the eyeball) may be very carefully flushed out, or very gently wiped away with a **clean** handkerchief. The dog must be kept from scratching at the eye. Here also the eye must be examined by a veterinarian to look for further damage.

Summary:

- a) Loose-lying foreign bodies : Eye-flushing/wipe with handkerchief.
- b) Imbedded foreign bodies: - Prevent scratching.
- **See vet immediately.**

4.) Prolapse of the eyeball:

As a result of an accident or a bite injury, the eyeball may prolapse (be forced out of the eye socket). **If the eye is to be saved, every single minute counts!!** LAY A CLEAN, MOISTENED CLOTH CAREFULLY OVER THE EYE AND IMMEDIATELY GO TO THE NEAREST VETERINARY HOSPITAL.

Summary:

- a) Lay a clean, moistened cloth over the eye.
- b) IMMEDIATELY seek veterinary attention.

C.) Tooth injuries.

Teeth may become broken or completely torn out during car accidents or dog fights (one dog's tooth striking against the teeth or metal collar of his opponent). If a tooth with its root is completely torn out of the tooth-socket, you should look for the tooth and then fold it into a sterile wound compress that has been moistened with water, and take it with you to the veterinary hospital. The veterinarian must decide whether the tooth can be replaced in its socket. ***If you have a purebred dog, the vet can give you a signed statement certifying that the now-missing tooth was there, BUT the vet must either SEE the freshly injured tooth socket OR, you must go to him within the next day or two after the accident and have him take an x-ray of the still-open tooth socket. In the case of broken teeth, which are still bleeding from the open root canal, the dog should also be examined and treated by a veterinarian, **since the open root canal and through it, the jawbone itself, is at serious risk of infection if left untreated.**

D.) Foreign bodies in the oral cavity.

If you should notice that the dog is salivating (drooling or frothing), or trying to eject something out of his mouth with his tongue, or that he is trying with his front feet to paw or pull something out of his mouth, you should check to see if there is something wrong in the oral cavity. When a dog bites down hard on a piece of bone or a stick that he is holding crosswise in his jaws, it is possible for him to bite off the portion that lies between the two dental arcades of either the upper or the lower jaw, so that the piece of bone or wood becomes jammed tight across the mouth between the rows of teeth (top or bottom). Also, a cartilage ring from the windpipe of a piece of neck meat which the dog has just eaten can become lodged around the tongue of the dog, cutting off the blood circulation in the tongue.

The first step in giving aid is to calm the animal. Now, **if you are absolutely sure that the dog is not likely to bite you** and that you can carry out an examination of the oral cavity by yourself without assistance, you should first let the dog close his mouth and then you lift the lips apart from each other. In doing this, you can see all of the teeth and the gums from the outside. At the same time, the dog will become accustomed to the manipulation of his mouth.

Now continue with the examination by opening the dog's mouth. With one hand, take hold of the dog's mouth from above (place the hand around the upper jaw) and press the lips of the upper jaw inward against the upper teeth. With your other hand, grasp the lower jaw in the area of the incisor teeth (the little front teeth between the fangs) and pull the jaw downward. By doing this, you can now visualize the whole mouth cavity clear back to the base of the tongue and you can remove the foreign body.

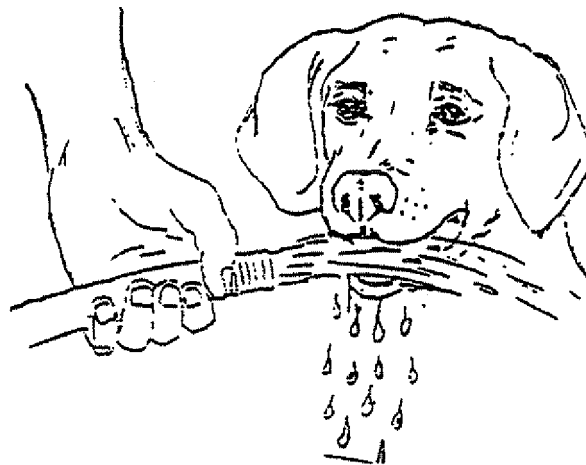
If the dog becomes displeased with these measures, or you are afraid you could be bitten, then you will need at least one assisting person or better yet, two. One person should restrain the dog's head so that he cannot continue to evade the procedure. In the meantime, place a sturdy noose around each jaw, behind the fangs. By pulling the two slings (nooses) apart, the second assistant can open the dog's mouth. (The first assistant is still restraining the dog's head from behind to hold him still while you and the second assistant work on the dog's mouth.) When the dog's mouth is wide open, the safety precaution of placing a sturdy piece of wood (**never metal!!**) between the back molars can be done to prevent the dog from suddenly closing his mouth.

Should all your efforts be unsuccessful, or if you see that the foreign body has caused injury inside the mouth, you should promptly take the dog to a veterinarian. If you yourself cannot find the cause of the dog's mouth-pawing or salivating behavior, you should for safety's sake have the dog examined by a veterinarian. **DIAGRAMS:**



E.) Caustic injury to the oral cavity.

If the dog has taken into his mouth some substance that is an irritant to the mucous membranes of the mouth, he will usually begin to smack his lips and make chewing motions and will salivate (drool or foam) profusely. If you cannot locate a foreign body by performing the procedure described in 10.)D.) above, then you should begin flushing out the oral cavity with lots of water. **Hold the dog's head angled slightly downward so that the water will run out of his mouth, and NEVER NEVER POINT THE HOSE INTO THE MOUTH TOWARD THE THROAT AS YOU WILL SURELY FORCE WATER INTO THE LUNGS WITH PROBABLY FATAL RESULT!!** Hold the hose cross-wise to the dog's mouth so that the stream of water flows **ACROSS** the open mouth and tongue, and not **INTO** it. Caustic substances on the mouth tissues can usually be cleaned off with several thorough flushings using lots of water and a non-irritating cleanser (such as mouthwash). **DIAGRAM:**



F.) Nosebleed.

Bleeding from the nose can have many different causes. **In order to ensure that the dog will have free breathing, he must NOT be muzzled!** First you should gently swab out the dog's nostrils with a clean cloth, so that you can determine whether the bleeding is coming from both nostrils or from just one. By doing this you can also see whether the blood is coming from an injury to the outer shiny part of the nose or whether it is really coming from inside the nose. If it is an external injury to the outside surface of the nose, which can bleed severely, you should hold an ice-pack over the bridge of the nose and at the same time, with a sterile wound compress or a clean cloth, press firmly upon the bleeding wound until the bleeding stops. As much as possible, the dog should be restrained calmly while the bleeding is being stopped. After the bleeding has stopped, keep any excitement or happenings in the near vicinity to a minimum. Excitement may raise the dog's heart rate and blood circulation causing the bleeding to increase or to start again once it is stopped.

If there is no detectable external injury to the nose, you should just calm the dog and hold an ice-pack over the bridge of his nose.

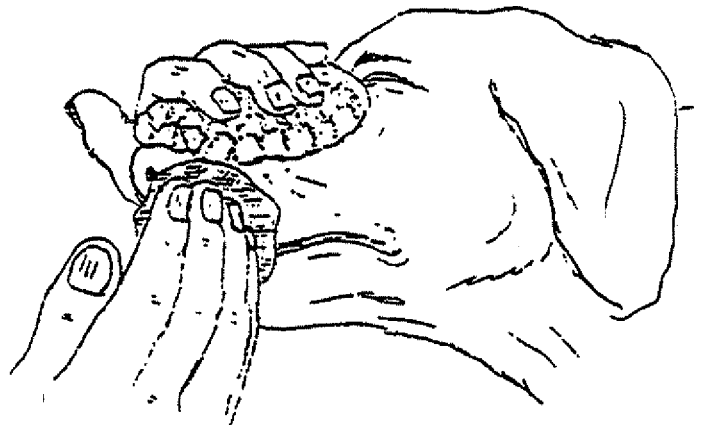
Nosebleeds can have some very serious causes. Poisoning with anticoagulant-type rat poison, severe inflammation of the nasal cavity, and tumors can also cause nosebleeds.

If the bleeding is coming from inside the nose, and the bleeding is very heavy causing the dog to have lost a lot of blood, or if the bleeding just cannot be stopped, you should **immediately** take the dog to a veterinarian. If the bleeding is coming from only one nostril (and you have controlled it for the moment), it will be very helpful to vets if you can advise them right away which nostril the bleeding was coming from.

Summary:

- a) Calm the animal.
- b) Place ice-pack over bridge of nose.
- c) Press clean cloth or wound compress firmly over an external nose wound.
- d) Transport to the vet if cannot stop bleeding or dog has lost a lot of blood.

DIAGRAMS FOR NOSEBLEED:



11.) Penetrating wounds to the chest cavity.

When the chest cavity is penetrated, the negative-pressure system that makes breathing possible is destroyed. When the normal rib cage expands fully through the activity of the diaphragm and the intercostal muscles (muscles that connect the ribs), air automatically rushes through the trachea (windpipe) and into the lungs. But if a hole is punctured into the chest cavity from the outside, then air will enter the chest cavity and destroy the vacuum (negative pressure) that kept the lung surfaces tight against the inside of the cavity. The sudden rush of air into the cavity collapses the lungs by its pressure, so that air coming in through the windpipe can no longer expand the lungs, and when the lungs no longer fill up with oxygen-carrying air from the windpipe, then effective breathing is no longer possible.

Dogs in this situation will show very rapid, extremely labored breathing. One can identify this type of injury from the fact that with each breathing effort by the dog, air will rush into and then out of the chest wound with a "slurping" noise. **The goal of FIRST-AID here is to seal up the open wound and make it airtight/watertight.**

The dog should be allowed to assume whatever bodily position allows him to take in the most air through his windpipe. Usually this will be a standing or a sitting position with the elbows spread wide apart. If the dog can no longer stand up, place him lying down **with the uninjured side down** and with his head end raised to a higher level than the rest of his body. **It should be clearly understood that a dog in this situation MUST NOT BE MUZZLED!!** You should wait until the moment when the dog has exhaled (breathed out) and at that moment quickly place over the wound a sterile wound compress that has been thoroughly moistened with 3% hydrogen peroxide. On top of the compress, you should apply a film of plastic (such as a clean piece of plastic bag), for a better sealing-off of the wound. This seal can be secured to the rib cage with wide adhesive strips [**applied with carefully controlled pressure, not too hard: Too much pressure will hinder the already poor breathing, and too loose pressure will not produce a sealing-off of the wound.**] Should it not be possible to secure the wound compress effectively, then an assisting person must go with you and the dog to the vet in order to keep holding the wound compress over the wound to seal it off, and to replace it over the wound should it become dislodged. The dog must be taken to the vet in the fastest manner possible.

Summary:

- a) Proceed calmly, so that the dog will not be further distressed than he is already.
- b) Allow the dog to assume the most comfortable position, or lay him on the uninjured side with head end elevated.
- c) Apply sterile wound compress, well-moistened with 3% peroxide.
- d) Place plastic film over the compress.

- e) Secure with wide elastic adhesive strips, or have assistant hold the compress on the wound to maintain sealing-off.
- f) IMMEDIATE transport to the vet.

11.) A) Blunt trauma to the chest cavity.

The worst problem with this type of injury is that one cannot see such an internal injury, and the condition of the dog can become much more serious within a very short period of time. If a dog suffers a heavy blow (or kick!!), or is struck by a car, or falls from a height that is sufficient to produce a comparable blow upon impact, the result in these cases is a very sudden steep rise in the pressure within the chest cavity. The air within the lungs and bronchi (the branches of the windpipe that go into the lungs) is placed under such compressive force that it can cause the lungs to rupture. In this situation, as with a penetrating injury, the negative-pressure system that is required for effective inflation of the lungs during breathing is severely compromised. The dog will begin very rapid, shallow breathing in an effort to try to get air into his lungs to keep up his oxygen supply.

If the dog is in shock, handle as under **section 17**. If the dog is not in shock, you should allow the dog to assume whatever body position he chooses. **GET THE DOG TO A VET IMMEDIATELY.**

If this type of accident results in rupture of the muscular wall of the heart itself, there is no way to save the dog's life; he will bleed to death within a very few minutes. If there is instead a rupture of the pericardium (the membrane enclosing the heart), there will not always be obvious visible symptoms. Therefore, every dog that has suffered such an accident should ALWAYS be brought to the veterinarian. The vet must above all determine whether or not there has been internal injury in the chest cavity and/or the abdominal cavity.

12.) Penetrating wounds to the abdominal cavity.

This type of injury must also be classified as very dangerous, because the internal abdominal organs could be damaged. In addition, there is always the great danger of infection leading to a life-threatening peritonitis (inflammation of the membrane lining the abdominal cavity). Because the abdominal wall consists of several layers (skin, subcutaneous tissue, several muscle layers) which can move or slide against one another, it often cannot be determined without expert (veterinary) examination whether or not an injury in the abdominal area has penetrated the abdominal cavity. The fact that no internal organs are "visible" from the outside does not mean there is no penetrating injury. Therefore, every injury in the area of the abdomen also in the area of the flank or groin- MUST be examined by a veterinarian.

The rendering of FIRST-AID is limited to covering the wound with a sterile wound compress that has been well moistened with 3% peroxide. Obviously, the dog must be prevented from licking at the wound!

If there are portions of any internal organs (i.e. a loop of intestine) protruding outside the wound, **the dog must NEVER be allowed to lick or chew at the protruding part.** Because there are often hairs and dirt particles adhering to the moist surface-membrane that covers the organ, **NEVER attempt to just push a protruding organ back into the abdominal cavity!** The protruding organ or part should always just be covered with a well-moistened wound compress, in order to prevent further contamination and drying out of the organ.

Very large wounds should be well covered with a freshly ironed tea towel (a small linen, NOT terry cloth towel) that has been moistened with 3% hydrogen peroxide OR with boiled water (that has been cooled down after boiling!)

If there is severe internal bleeding (i.e. from ruptured blood vessels, ruptured liver, ruptured spleen), symptoms of shock will be evident. (See section 17.)

Summary:

- a) Cover with sterile wound compresses, or with a freshly ironed LINEN towel, that has/have been well moistened with 3% hydrogen peroxide OR with boiled water (that has been cooled down after boiling!)
- b) If the dog is in shock, handle as under Section 17.
- c) IMMEDIATE transport to the vet.

12.) A) Blunt trauma to the abdominal cavity.

Blunt injuries to the abdomen can be extremely dangerous. The problem first of all is that these injuries are not obviously visible. An auto accident, a blow or a kick in the abdominal area can cause injury to the internal organs. A sudden increase in pressure inside the abdominal cavity can also result from a wide-area surface impact, such as a fall from a window.

The sudden increase in intra-abdominal pressure can have serious consequences, such as:

- Liver and spleen tissue is not particularly stable: It will tear! If this occurs, there will be life-threatening internal bleeding.
- A full stomach can rupture, leading to life-threatening shock.

- A full urinary bladder can rupture, leading to severe pain and inability to eliminate urine.
- The diaphragm can rupture, causing abdominal organs to prolapse into the chest cavity and greatly hindering the ability of the animal to breathe.

If there is severe internal bleeding, shock will set in within a time period that will vary according to the amount and speed of the hemorrhage (blood loss).

FIRST-AID FOR SHOCK: See Section 17.

In cases of ruptured stomach, the symptoms will develop rapidly. This injury will produce rapid shock and a groaning dog, **which should be immediately taken to a veterinary hospital.**

In case of a ruptured urinary bladder, the dog must also be brought immediately to the vet. **You cannot help a dog in this condition except to get it to the vet immediately.** Bladder ruptures with this type of injury occur mostly in male dogs, because their urethra (the tube going from the bladder to the outside) is much longer and more narrow than that of the female, and when a sudden rise in intra-abdominal pressure occurs, the male dog with his long, narrow urethra cannot empty his bladder fast enough to prevent it rupturing.

In the case of a ruptured diaphragm, let the dog assume whatever posture or position will allow him to breathe most easily while you get him to the veterinary hospital as fast as possible. **NEVER force him to lie down if he resists this positioning!**

EXTERNAL INJURIES:

13.) Contusions (bruising) and hematomas (bleeding into soft tissue spaces).

This type of injury, caused by a blunt blow or impact, is outwardly detectable simply by the fact that direct contact or cautious palpation (feeling gently with the hand) of the injured area will elicit a pain response, and swelling of the area may develop. Whether the injury is only a contusion (and nothing more) is very hard to determine from an external view. There could always be damage to deeper muscles, nerves etc. Even a concealed bone fracture is not always detectable at first glance. A deep-seated hematoma is also unlikely to be visually detectable. A superficial hematoma is noticed because it produces red-to-violet discoloration of the skin.

If the symptoms are relatively severe, the injury must be evaluated by a veterinarian. The most effective FIRST-AID measures consist of positioning the injured and painful body

portion calmly and comfortably, and placing an ice-pack over it for cooling effect (hinders further bleeding and swelling).

Summary:

- a) Calm and comfortable positioning.
- b) Ice-pack or moist - cold wrapping.
- c) Transport to the vet.

14.) Sprains and strains.

All of the joints in the body are subject to sprains/strains, however, those most commonly affected are the joints of the limbs. For the most part, the result will be lameness of varying degree. In order to determine which joint(s) is/are involved, a careful examination must be made. For this purpose, the dog should be laid down with the uninjured side down. An assistant restrains the two underneath (uninjured side) limbs firmly against the table/floor, in order to prevent the dog from getting up. A second assistant should stay at the dog's head and calm the dog. **[SEE PRIOR DIAGRAMS FOR ASSISTANT #1 HOLDING THE DOG]**

The lameness examination should be done systematically from the lower part of the limb to the upper part. In doing this, each joint is individually gently flexed and then extended, beginning with the toe joints. If one or more joints are found to be painful, they should be cooled with an ice-pack or wrapped with a moist-cold bandage. It is for the veterinarian to determine whether the injury is something serious such as a damaged tendon or ligament.

Summary:

- a) NO further stress should be placed on the affected joint(s).
- b) Cooling with ice-pack or moist-cold wrapping.
- c) Transport to the veterinarian.

15.) Dislocation of a joint.

An abnormal position of a joint and an extreme lameness are the external signs of a dislocated joint. Frequently, hematoma formation and rapid onset of swelling can be seen. In the case of a dislocated jaw, the crooked-appearing mouth cannot be closed. A dislocation in the vertebral column (spine) or sacroiliac joint of the pelvis is seldom

visible externally, but will cause such visible symptoms as severe pain and loss of function (doubled-up back, lameness, paralysis). Almost always the joint capsule and the ligaments have been overstretched, and are split open or completely torn away.

The affected joint should if possible not be allowed to move; under NO circumstances should you attempt to re-locate the joint (place it back in its normal position)!

Maintenance of soft, stable support for the dog's body during transport to the vet will minimize the pain. Supply under-padding for the affected limb (over a base-support of thick cushions or plywood). Thorough cooling with ice-packs or moist-cold wrapping should always be done to hinder further swelling; the work of the veterinarian will thereby be greatly assisted.

Summary:

- a) Stable, soft support.
- b) Under-padding of affected limb.
- c) Cooling with ice-packs or moist-cold wraps.
- d) Immediate transport to the veterinary hospital.

If you suspect dislocation of the spine, transport the often still ambulatory dog with much increased cautiousness: Do NOT allow the dog to jump into or out of the car! If the animal is unable to stand, the best way to transport him is to lay him on a firm under-support surface. If you cannot find anything suitable to use for such a support, then have two or three people assist you by all lifting the dog up at the same time and laying him in the vehicle in a stable position. Immediately transport him to the vet.

Summary:

- a) VERY careful transport! Firm support, several people assisting.
- b) Immediate transport to the vet.

16.) Broken bones (fractures).

- A.) Closed fractures.

Fractures are very painful injuries because the broken ends, which are usually very sharp and/or jagged, are often jammed into the surrounding soft tissues. Large hematomas form rapidly from the bleeding bone marrow and injured blood vessels, and this results in

much swelling. There is always a greater or lesser loss of function in the affected body part. Most fractures occur in the limbs causing extreme lameness, such that the dog can no longer bear any weight on the limb.

Fractures of the jaw, besides causing pain and swelling, often cause the teeth no longer to "fit together", so that the jaws cannot be closed properly. In most cases the dog will hold his mouth slightly open.

Skull fractures cannot always be seen directly. If the shape of the head is asymmetric or if a portion of the skull appears to be depressed inward, you should be very suspicious of a skull fracture.

Signs and symptoms of a skull fracture can include any/all of the following:

- Bleeding from the ears, eyes and nose;
- Appearance of clear, light-yellow fluid coming from ears, eyes or nose (cerebrospinal fluid);
- Prolapse of one or both eyeballs out of their sockets;
- Loss of consciousness.

Fractures of the vertebrae (spine) are also very difficult to detect externally. The loss of function that is outwardly visible can vary a great deal. If the fractured segments are not seriously displaced, the only initial symptoms may be a hunched-up back, knotted up back muscles, and a very cautious and tensed-up gait ("bracing" of all movement in walking, etc.) If the fractured segments are markedly displaced, the spinal cord may have been crushed, in which case there will be complete paralysis of the body behind the injury (going backwards from the head end). Varying intermediate stages are possible.

Approximate localization of a spinal column injury

- 1.) Paralysis of hindquarters only:
 - a) Posterior thoracic spinal column.
 - b) Lumbar spinal column.
 - c) Slight injury to the cervical spinal column.
- 2.) Paralysis of both forelimbs and hindlimbs:
 - a) Cervical spinal column.

! Always watch the animal carefully for signs of clear consciousness and responsiveness! Loss of consciousness or reduced awareness can be indicative of other underlying causes such as brain damage.

In the case of closed fractures, the skin itself is always unbroken. There are no bone fragments protruding and no bleeding to be seen externally. An unnatural bending of the fractured limb is usually noticed. Extreme lameness with swelling and pain should always arouse your suspicion of a fracture.

The FIRST-AID for an animal with such an injury begins always with keeping the animal still and quiet, so that it will not injure itself further by struggling and causing shifting of the fractured ends of the bone(s).

!!! Only fractures BELOW the elbow joint and BELOW the knee joint (stifle) can be splinted. It is not possible to "splint" a fracture of the upper foreleg or upper thigh, or to splint a fractured spine.

The next step is for you to recheck and make certain that you are not dealing with an OPEN ("compound") fracture.

Summary:

- 1.) Fractures in the area of the jawbones: Transport to the veterinary hospital.
- 2.) Skull fractures: Very carefully lay the dog on its side and make the fastest possible trip to the vet. Should the dog be unconscious, or become so on the way to the vet, you **MUST** ensure above all that the dog can breathe freely. Gently extend the head and open the mouth, then pull the tongue forward and lay it out the side of the open mouth so that you can control the dog's airway, keeping it open for free breathing. **If you see signs of shock, handle as under Section 17.**
- 3.) Spinal and pelvic fractures: Very carefully lay the dog on a flat, firm surface with as little movement of the back and pelvis as possible (use a wooden board or a wooden door for a large dog; flat basket or other firm container for a small dog). Should it be necessary to muzzle the dog, do NOT place the muzzle directly over the suspected fracture site(s) or over the neck; do not hinder the dog's breathing! Make the fastest possible trip to the veterinary hospital.
- 4.) Fractures of the upper limbs - shoulder blade, upper arm (humerus), thigh (femur): If possible, the dog should be laid on his side with the uninjured side down and comfortably positioned for the trip to the vet. The suspected fracture site may be cooled with an ice-pack.

- 5.) Fractures of the lower limbs; If you detect a marked change in shape or abnormal bending of the leg, or if the dog shows severe pain during examination of the leg, **then leave the leg alone!!!** Place the dog with the injured leg bedded down on a thick, soft surface (towels, bedspread, etc.) so that it will rest as quietly as possible and the pain will not be any more than is absolutely necessary. If the dog will tolerate cooling with an ice-pack, this can minimize the pain and swelling.
Transport to the veterinary hospital.

Application of a leg splint: SEE DIAGRAMS BELOW:

The purpose of splinting is the immobilization of the fracture - IT IS NEVER THE PURPOSE TO "SET" THE BROKEN BONES! DO NOT TRY TO DO SO. If the dog exhibits extreme pain when you try to splint the leg, you should discontinue the attempt to apply a splint and instead, keep the injured leg carefully bedded on a thick, soft surface during the trip to the vet.

For splinting, you will need various materials: Cardboard, rolled/folded newspapers, wooden sticks, etc. which are laid along/around the injured leg and then not too tightly taped or wrapped.

During transport, the dog should have the splinted limb supported so that it will not swing free or move around.



- 6.) Concealed rib fractures: In any case where there is/are rib fracture(s), it must be assumed that the chest cavity has been penetrated (opened). If one observes a bulging of the skin in the area of the ribs, and it "inflates" or bulges further out when the dog exhales and then it "deflates" itself back in again when the dog inhales, then air is escaping out of the chest cavity and going under the skin- therefore, the chest cavity has been penetrated (opened). This results in the creation of several more or less severe problems for the injured dog, as described

in Section 11 (above) "Penetrating Injury to the Chest".

The animal should be kept quiet, as he already has problems with breathing at all. As **FIRST AID MEASURES:** A soft, folded-up cloth, such as a handkerchief, should be laid directly upon the bulging area. Using moderately firm pressure, the dog's ribcage (chest cavity) should be wrapped, if possible with a wide elastic ("Ace") bandage, but in an emergency one may use strips of fabric or a scarf. **If there is no suitable material available, the cloth (handkerchief or etc.) must be held firmly against the bulge with one's hand(s).** In this way, the dog's breathing can be greatly helped.

- a) **Apply soft folded cloth over the bulging area.**
- b) **Wrap wide elastic bandage around the ribcage.**
- c) **IMMEDIATE TRANSPORT TO THE VETERINARIAN.**

If the injury results in hemorrhage in the lungs, there will be rapidly increasing respiratory distress. Allow the dog to take whatever body position allows him to breathe with the least difficulty; he will usually seek this position himself. Do NOT try to make the dog lie on his side if he resists taking that position. If he is no longer able to stand up, lay him with the **healthy (uninjured) side DOWN** and with his head in an elevated position.

B.) Open (compound) fractures.

One can recognize these injuries easily, because the skin over the fracture site is lacerated (opened). This is caused either be the influence of external force, or because the sharp ends of the fractured bone pieces have broken through the skin from the inside. Occasionally, bone pieces which have penetrated through the skin will be visible. **IN RENDERING FIRST-AID, ONE MUST ABOVE ALL PREVENT THE THREATENING DANGER OF INFECTION.** The open wound(s) must be covered with sterile compresses which have been well moistened with 3% hydrogen peroxide. (This disinfects, hinders the drying out of the tissues.) **DO NOT USE ANY OTHER DISINFECTANTS, SALVES OR SPRAYS!!!** If hydrogen peroxide is not available, use ONLY fresh water that has been boiled and then cooled. Do NOT try to bandage or splint the fracture. Position the injured limb upon a soft, STABLE surface, without letting the limb move while you are doing this, and **immediately take the dog to the veterinarian.**

- a) **Apply STERILE wound compresses.**
- b) **Wet the compresses well with 3% hydrogen peroxide.**

c) **Position the limb on a soft, STABLE surface.**

C.) Open joint injuries.

Open injuries to the joints occur either through the influence of external force (including bite-injuries, stab wounds and deep abrasions), or they occur through open fractures of the bones that form a joint. If you examine the wounds, you will discover a clear, tenacious fluid: The synovia, or synovial fluid. The animal should under no circumstances be allowed to bear any weight on the limb. Putting weight on and then taking the weight off of the injured limb produces a "pumping" effect that pushes the synovial fluid out of the joint and then sucks back into the joint all sorts of dirt and other contamination, allowing infection-causing materials to travel deep into the joint!

FIRST-AID ATTEMPTS should consist of placing the injured body parts into a resting position. Cover the injured area with sterile compresses, and wet the compresses with 3% hydrogen peroxide. On the trip to the veterinarian, bed down the dog on a soft and stable surface.

- a) **Keep dog still, allow NO further weight-bearing.**
- b) **Apply sterile wound compresses.**
- c) **Moisten the compresses well with 3% hydrogen peroxide.**
- d) **Bed the dog down on soft and stable surface, with good padding support under the leg.**
- e) **TRANSPORT TO THE VETERINARIAN.**

17.) Shock.

SHOCK IS A LIFE-THREATENING SITUATION!!!

Your recognition of it and your top priority handling of the situation must ALWAYS be Job #1 as regards the rendering of FIRST-AID. Once you have determined that you have a shock situation, YOU MUST TEMPORARILY IGNORE ALL OTHER INJURIES.

SPEED IS IMPERATIVE!!

What is "shock"?

Shock involves a serious disturbance to the blood circulation. Vital organs such as the brain, the thoracic (chest) organs and abdominal organs no longer receive sufficient blood supply and can therefore suffer severe injury.

What causes shock?

- ** Severe blood loss, i.e. through internal hemorrhage or massive external injury, removing from the circulatory system a large portion of its blood volume (about 8% of the body weight).
- ** Loss of blood plasma (serum), through poisoning, which makes the circulatory system "leak" into the tissues.
- ** Extensive skin defects and above all, burned areas, from which severe amounts of serum "ooze" out.
- ** Severe allergic reactions such as insect stings, egg-white-containing medicaments such as vaccines and immune serum) and other substances. This reaction is called "anaphylactic shock".
- ** Disturbance of brain function, as for example through skull injury or poisoning.
- ** Severe pain.
- ** Extreme psychological damage (severe accident or bite-wounds).

Whenever ANY animal is injured or ill, there exists the possibility of the development of a shock situation!!!

How does one recognize shock?

Shock situations exist in varying degrees. One may only notice a single symptom or several may appear in combinations.

- 1.) The dog appears weakened and somewhat mentally hazy, if he is conscious. He may also run in an unsteady or dazed manner. In an extreme shock situation the animal may collapse and/or become unconscious.
- 2.) Frequently one may observe trembling, or even a circumstance resembling "fits of shivering" (the dog becomes freezing cold).
- 3.) The external body parts such as ears, paws and tailtip feel cold to the touch.

- 4.) The breathing is shallow and rapid (either panting or rapid breathing through a closed mouth.)
- 5.) The visible mucous membranes are pale, almost white. (Tongue, gums, conjunctivae). Check the vaginal mucosa or the mucosa of the sheath if the dog's head cannot be examined.
- 6.) The heart beats very fast. If you cannot feel the pulse on the inside of the thigh, then feel for the heartbeat on the left side of the chest, 4-5 cm behind the elbow. Place your finger between two ribs. Count the heartbeats that you feel in a ten-second period and multiply by 6 to find the heart rate in beats per minute. The normal value at rest in large dogs is about 80 beats per minute; the value at rest for small dogs and puppies ranges between 80-120 beats per minute.

In shock, there may be values from 150 to more than 200 beats per minute!!

FIRST-AID in a shock situation:

- 1.) Lay the dog on his side, if possible on a blanket.
- 2.) Stretch his head forward and make quite certain that he can breathe adequately. Open his mouth and pull his tongue forward, letting it hang out between teeth just behind the canine tooth (fang).
- 3.) Position the hindquarters and hind legs higher than the front end, by propping up with more blankets or etc.
- 4.) Place a hot-water bottle (wrapped in a towel to prevent burning) against the dog's abdomen.
- 5.) Stop any visible heavy bleeding.
- 6.) Wrap the dog in a blanket.
- 7.) **TAKE THE DOG TO THE VETERINARY HOSPITAL AS FAST AS POSSIBLE!**

18.) Loss of Consciousness.

Loss of consciousness can be caused by many injuries, poisonings and illnesses. In order

to determine whether the animal is really unconscious, it is necessary to examine the animal in a detailed, specific manner. Animals may collapse into any number of lying down positions. First, try to bring the dog into the position of lying flat on his right side (right side down). Now examine the dog to see whether he is still breathing and whether his heart is still beating:

A.) **BREATHING:**

Look for a rising and falling of the rib-cage and/or the abdominal wall.

Normal value at rest: At least 20 respirations (breaths in and out) per minute.

B.) **HEART FUNCTION:**

On the left side of the dog's chest, 4 - 5 cm (1.5 - 2.0 inches) behind the elbow joint, the heartbeat can be seen or palpated (felt through the fingers, by laying two fingers on this spot between two ribs.)

Normal values at rest:

Large dogs: 80 beats/minute

Small dogs and puppies: 80 - 120 beats/minute

TAKE CAREFUL NOTE OF THE HEART RATE IN A SHOCK CASE!!!

Once you have determined that there is breathing and a heartbeat:

- Stretch the head forward
 - Open the dog's mouth
 - Pull the tongue forward and let it hang out of the mouth.
- KEEP the dog's head in this position.

Open the dog's eyes and then release the lids. Gently tap with your finger **on the corner of the lids where they come together at the eye-corner nearest the center of the face**, and observe whether the lids flutter or "twitch" when you tap at that spot (seen in superficial unconsciousness).

The pupils should contract when a light beam is shown upon them. If the animal shows no "wink reflex" when you tap on the corner of the lids, try tapping GENTLY **with a clean finger** on the cornea of the eye. **If the dog still shows no "wink reflex", the**

unconsciousness is very deep. The pupils do not react to a light beam, but instead remain unchanged, usually wide.

19.) Respiratory Arrest.

If you cannot detect any sign of breathing, stretch out the dog's head, open its mouth and pull the tongue forward and out of the mouth (let the tongue hang out of the mouth). Verify with your eyes and fingers whether the throat area is free and clear, or whether there is an object or some vomit **which has "gone down the wrong way" (gone down into the trachea or windpipe, instead of going down into the esophagus and into the stomach).**

IF there is material blocking the throat or windpipe, carefully clear away and remove the material from the throat area. Squeeze the dog's nostrils firmly together and observe whether this causes a breathing attempt to occur. If breathing does begin, then **start the journey to the emergency vet hospital immediately.**

If the dog still does not begin to breathe, you must begin applying artificial respiration. **KEEP MONITORING THE DOG'S HEART RATE!!!**

ARTIFICIAL RESPIRATION:

A.) By massaging the rib-cage:

Lay the dog on his right side. Place both of your hands, spread out flat side-by-side, upon the ribcage of the dog and compress the rib cage (push the upper side down against the underneath side.) In this way, **carefully** compress the rib-cage about 30 - 40 times per minute. **(DO NOT MAKE ANY HARD, QUICK, SHORT, FORCEFUL PUSHES!!)** You should press down firmly and steadily over a period of about one to two seconds, then release the pressure quickly to allow the lungs to re-expand. When the rib-cage has re-expanded, do the next compression, and so forth.

Several additional assistants should help out by having one of them stay on one side of the animal's head and keep track of whether any air is coming in and going out of the open mouth, and another assistant should repeatedly, from time to time, verify and make note of the animal's pulse rate (by feeling the pulse on the inside of the thigh as mentioned above.) If no assistant is available, then these tasks must be carried out by the First-Aid giver who is applying the artificial respiration.

For the time being, the artificial respiration should continue to be administered for about one minute. Then, stop for several seconds and observe whether or not the dog begins to show spontaneous respiration. If independent (unaided) respiration has started, **transport the dog immediately to the veterinary hospital. DURING THE TRANSPORT TO THE VET, THE DOG MUST BE CONTINUOUSLY WATCHED TO MAKE SURE HE CONTINUES TO BREATHE.**

If the dog should stop breathing on his own, you must repeat the artificial respiration until the dog begins to breathe on his own again, or until you arrive at the veterinary hospital.

If the dog does not begin to breathe on his own, you should proceed exactly as follows:

One minute of artificial respiration (30 - 40 times per minute, then several seconds of pause in order to monitor for the start of independent respiration. During this pause you can always recheck the heartbeat and make note of it.

THE CHEST-MASSAGE METHOD OF ARTIFICIAL RESPIRATION CANNOT BE USED IF THERE IS:

- Injury to the ribs.
- Suspected internal injury to the chest cavity.

B.) By mouth to nose resuscitation:

This form of resuscitation is more effective than massage of the rib-cage. The head is to be stretched out forward for this method also. The mouth of the dog is opened and the tongue pulled forward just as before, but not protruding out of the mouth. The mouth is then closed again (airtight if possible.) Put your lips completely around the nose of the dog and blow into the nose. During the blowing in of the air, you must observe whether the dog's rib-cage rises (expands).

If the chest does not expand, repeat the blowing into the nostrils, but blow more forcefully. Now remove your mouth from the dog's nose so that the air may return out of the lungs. There should be about 30 breaths per minute- that is, blow into the nostrils for 2 seconds, then let the nose go free for 2 seconds. After one minute of resuscitation, stop for several seconds in order to observe whether any spontaneous respiration begins. **During this pause you must always check the heart activity (see or feel the heartbeat).**

The volume of air that you are blowing into the dog's nose is sufficient when the dog's rib-cage expands well visibly. **DO NOT OVERINFLATE THE LUNGS**

OF A SMALL DOG!! TOO LARGE A VOLUME OR TOO FORCEFUL RESUSCITATION EFFORTS WILL SEVERELY DAMAGE THEIR LUNGS. (Will burst the tiny air sacs in the lungs).

- a) Lay the dog on its side (right side down).
- b) Stretch the head forward, open the mouth, pull tongue forward.
- c) **EITHER:** **Rib-cage Compression:**
 About 12 - 15 compressions/minute
 About 1 - 2 sec. compress, 2 sec. release
 Total 1 min. of compress/release, then stop and observe for several sec.

OR:

Mouth to Nose Resuscitation:
Close the dog's mouth after step (b)
Perform resuscitations about 12 x/minute
About 2 sec. blow IN, about 2 sec. nose free
Total 1 min. of resuscitations, then stop and observe for several sec.

The artificial respiration/resuscitation MUST ALWAYS be continued until spontaneous respiration occurs OR until your arrival at the veterinary hospital!!!

THE DOG'S HEART RATE MUST BE REPEATEDLY MONITORED DURING THE ADMINISTRATION OF ARTIFICIAL RESPIRATION/RESUSCITATION.

20.) Cardiac Arrest.

If you are examining an unconscious animal and you cannot see any heart movement or feel any pulse, you must take **immediate** action! Do not take time looking for signs of breathing: an animal without heart function does not breathe.

CARDIAC MASSAGE:

Position the dog with his right side down, then stretch the head forward. Open the mouth and pull the tongue really far forward. Kneel down between the front and hind legs close to the dog's rib-cage. The palm of the left hand should be laid on the ribcage several centimeters behind the elbow. Place your right hand on top of and enclosing your left

hand. Now begin pumping up and down on the chest (ribcage) using short, vigorous blows (pushes) in a rhythm of about one per second. **With small dogs you can perform the heart massage with one hand by placing one hand around the chest from below (compress the sides of the chest together with the same rhythmic compressions as for large dogs.)**

Consecutively with the heart massage, you **must repeatedly** perform the artificial respiration. Alternate the two in a ratio of 10 x heart massage to 3 x artificial respirations (resuscitation). About once every minute you should pause for a few seconds to determine whether spontaneous heartbeat or respiration has begun. Bring the animal as fast as possible to the veterinary hospital. DURING TRANSPORT TO THE VET, THE CARDIOPULMONARY RESUSCITATION MUST BE CONTINUED UNTIL SPONTANEOUS RESPIRATION AND HEARTBEAT HAVE BEGUN, OR UNTIL YOU ARRIVE AT THE VETERINARY HOSPITAL!!!

- a) **Position dog lying down on right side**
- b) **Stretch head forward, open mouth, pull tongue forward**
- c) **Cardiac massage at 1 per second : 10 times**
Artificial resuscitation : 3 times
(chest massage OR Mouth to Nose)
- d) **Pause after one minute to check on heart function and breathing (see whether either one has started spontaneously)**
- e) **TRANSPORT IMMEDIATELY TO VETERINARY HOSPITAL**

When should the resuscitation attempts be abandoned?

When the animal has clearly been dead for some time:

- a) No cardiac or respiratory function exists
- b) No eye reflex can be shown
- c) The body of the animal is cold to the touch
- d) The animal is stiff (rigor mortis); the legs will not bend

21.) **Heatstroke.**

Dogs are among the most extreme of all heat-sensitive animals. The dog has no sweat-

glands in the skin (only on the feet and part of the nose). The dog's only method of cooling himself is by panting (generating heat loss through evaporation). **The dog can balance external temperature by panting, ONLY UP TO 28°C (85°F)!!!** If the temperature is higher than that, the dog must obtain additional cooling:

- lying on a cool surface
- wetting of his haircoat by licking or swimming (generating heat loss through evaporation).

If the dog has no possibility of obtaining additional cooling, his body temperature rises above its normal level.

BODY TEMPERATURE:

The normal body temperature of the dog at rest or moderate exercise lies between 38°C and 39°C (101°F - 102°F).

If the dog undergoes excitement or physiological stress, **especially in warmer weather**, the body temperature can rise to values higher than 41.0°C! (105°F)

When the dog's body temperature reaches 40°C (104°F), compromise of the blood circulation system will begin along with obvious physical weakness. The problems occur because the body attempts to pump a large amount of blood to the outermost body areas (legs, skin) so that the blood may be cooled there. If this situation becomes extreme, there will be a failure of sufficient blood flow through the vital internal organs, producing a situation very similar to shock. If the body temperature continues to rise, the blood circulation problems become more critical, and now the dog can barely stand up (staggers) with massive panting, or alternatively, breathing very rapidly through the nose with a closed mouth (mostly when there is a fever without physical strain). The animal may progress further and show varying degrees of disturbance of consciousness, from an absent-minded" impression to complete unconsciousness. **The mucous membranes are a deep red color, and visible surface veins such as those in the white portion of the eye (sclera) or under the tongue are visibly swollen and stand out prominently on top of the tissue surface. The entire body of the dog feels very warm to the touch.**

If body temperature reaches 43°C (109°F), THE MUSCLE AND OTHER PROTEIN IN THE BODY STRUCTURE WILL BEGIN TO COAGULATE (COOK!!)

THERE IS IMMEDIATE DANGER OF DEATH TO THE DOG!!!!!!

If you suspect a mild temperature rise in a dog, **this can be verified ONLY by determining the temperature with a proper fever thermometer.** A warm nose, warm ears, or warm paws are NOT conclusive evidence of a fever. During sleep or by physical activity the nose always becomes warm and dry. The fever thermometer can be readily lubricated with oil, hand lotion, butter (or Vaseline) so that it glides easily. It should be gently inserted into the anus and advanced several centimeters into the rectum and then held there securely. The dog should be standing (place one arm under the belly - otherwise the dog will sit down) OR the dog may be lying down. As soon as the thermometer shows no further rise in temperature, the measuring procedure is finished.

Keep in mind, if the dog is panting heavily, a great deal of the dog's body water is evaporating with the saliva (**up to about one liter per hour**). Because the dog has very little water reserve in his body, he must drink relatively a lot of water!! Above all, the dog should be given frequent opportunities to drink in multiple small portions (at intervals of about 5 to 10 minutes) **until the dog himself is no longer thirsty.** If the dog loses a lot of water and cannot replace it sufficiently by drinking, the blood becomes "concentrated". The heart must then work very hard to pump the viscous, thick blood through the blood vessels. The blood moves with great difficulty and slowness through the smaller blood vessels, placing great danger of damage to vital organs which do not receive adequate oxygen exchange from their smaller blood vessels in which the blood is barely moving.

GREATEST DANGER TO THE DOG!!!!!!

The greatest, most extreme danger to dog's lives occurs when they are placed and kept **in warmer weather** inside of small kennels (crates) with poor air-exchange ventilation, **or even in closed vehicles**, which are very likely to stand in the full rays of the sun. **Stop and think** how high (and how quickly) the temperature can rise inside a closed automobile that is standing in full sunlight on a warm day. **Temperatures of 50°C (120°F), 60°C (140°F), and 70°C (157°F) are not uncommon.** Within 10 to 15 minutes, the dog will already be in serious difficulty. REMEMBER, WHEN YOU LEAVE YOUR DOG INSIDE YOUR CAR, THAT THE SUN WANDERS AND MOVES!!!

If the dog MUST be left in the car:

- 1.) **Always park the car in the shade.**
- 2.) **KEEP WATCH on the sun's movements and move the car accordingly.**
- 3.) **Always open a sliding roof, windows, rear hatch.**

- 4.) **AGAIN: Always keep watch on the dog and the car!!!**
- 5.) **Give the dog water frequently.**

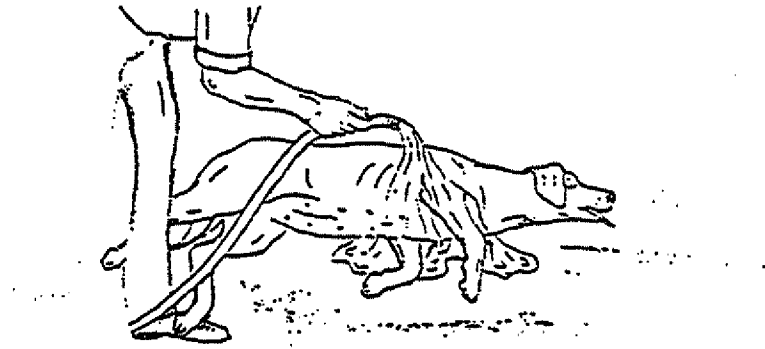
!!! Do NOT hesitate to remove a dog by force from a strange vehicle if there is imminent danger to the dog and the owner cannot be found promptly. You are not liable in such a case for the resulting damage to the vehicle!!!

The above statement pertains to German law and in many jurisdictions throughout the LV may also be applicable. Even though LV/DVG AMERICA agrees wholeheartedly with it, we do not make the “laws in this country.

Every reader of this Manual is advised to check the legal status of the above situation IN HIS/HER OWN STATE and/or CITY and/or COUNTY before acting on this statement. A forceful action in this regard will be the total responsibility of the reader.

FIRST AID:

- a.) **Bring the dog immediately to a cool place under total shade.**
- b.) **The cooling must be carried out consistently over about a half-hour period. The method of choice is to spray the dog with a water-hose. To start with, cool down only the legs. Then SLOWLY work the spray up onto the hindquarters and forward to the front end. COOL THE HEAD LAST, USING ICE-BAG AS INSTRUCTED BELOW.**
- c.) **An ice-bag should be laid from above, over the head and neck.**
- d.) **Offer water to drink, provided the dog is approachable AND CONSCIOUS. NEVER administer water to an unconscious animal that cannot swallow!!!!**
- e.) **Transport to the Vet-----leave ice-bag on during transport.**



22.) Cardiac and circulatory weakness.

Heart and blood circulation problems can arise from many different causes. They are very frequently caused by overstressing an animal whose physical conditioning is not adequate. Also, sick dogs or those very recently recovered from illness or injury must **always** be excluded from such stresses. If the heart is not properly conditioned to satisfy the demands made upon it, the result may be severe, irreparable damage to the heart muscle.

In spite of massive increase in heart rate (beats per minute), the heart then simply cannot pump enough blood into the circulatory system.

- a) Then not enough blood is carried into the pulmonary (lung) circulation, where the necessary oxygen-exchange takes place.
- b) The de-oxygenated (venous) blood that needs to flow back to the heart from the outlying body regions is not being pumped away fast enough (toward the heart), and this results in damming up and accumulation of the blood:
 - 1.) In the body circulation
 - 2.) In the lung circulation

The result of this situation is an undersupply of oxygen to the blood, coupled with an oversaturation of the blood with metabolic waste-products (lactic acid and carbon dioxide) coming from muscle metabolism.

One can recognize this situation from the dog's extreme panting.

For one reason, because the dog is not receiving enough oxygen, and for another reason, namely, that the body temperature is usually significantly increased. The dog will stagger and at times can barely stand up. The veins are obviously swollen because of the backing

up of the blood circulation, **and the eye lining membranes are white as is the underside of the tongue.**

The heart rate can reach a value of **150 - 200 beats per minute and even more!** FEEL the dog's pulse on the inner side of the upper thigh OR feel the heartbeat directly on the left side of the rib cage, about 4 - 5 cm (1.5 - 2.0 inches) behind the elbow joint (this can be very hard to feel because of the massive heaving of the rib cage during the panting).

Place two fingers over the artery (inside of thigh, high up toward groin) and count the number of pulse waves within a 10 - second period and multiply by 6 to get the number of beats per minute.

Because of the ever-decreasing oxygen level in the blood, together with the increasing amounts of carbon dioxide in the blood, **the visible mucous membranes (gums, underside of tongue, inside of eyelids) will be colored blueish to violet.** Without assistance, even when the symptoms are not all too aggravating, such dogs do not recover within an acceptable time period. If after 5 to a maximum of 10 minutes there has been no significant calming-down of the dog, that is, there has been no **obviously** detectable improvement in the symptoms, the dog should not be allowed to be stressed further; for example, the dog should be excused, for its own protection, from an A.D. test. Encourage the dog's handler to condition his dog with small, slowly increasing training-units or to have the dog thoroughly examined by a veterinarian.

FIRST AID:

- a) Bring the dog immediately to a cool place under full shade.
- b) For the time being, leave the dog alone (rest him) so that he can catch his breath.
- c) Always offer the dog water on a free-choice basis.
- d) If the dog has become overheated (in doubtful cases, **measure** the temperature -- **and keep in mind the normal rise in temperature under "load" i.e. strenuous activity.**)

--Cooling: Handle as described under #21.) **Heat Stroke.**

- e) Protect the animal from further stress or activity.
- f) In the case of serious symptoms, encourage the handler to take the dog in afterwards for a thorough veterinary check-up.

23.) Hypothermia (too low body temperature.)

Hypothermia is seen mainly in shorthaired dogs. However, under certain circumstances even longhaired dogs can suffer from hypothermia. Often after an accident animals will run away, panic-stricken. If they have serious injuries and subsequently develop circulatory difficulties or lose consciousness, they can become unable to maintain their body temperature properly (normal temperature = 38.0 - 39.0°C / 101 - 102°F.)

If you come across such an animal in this sort of circumstance, it will give the impression of being very apathetic or it will be completely unconscious. If the body temperature has not yet become too low, the animal will be shivering. If, however, the body temperature has gone way down, the animal will be lying completely still. If the animal already feels cold to the touch, the measured temperature may reach a value that is below 30°C (85°F).

Bring the animal immediately to a warm place. Wrap the dog in a blanket and lay hot water bottles over its stomach (**hot water bottles that have been wrapped in a towel TO PREVENT BURNING THE DOG'S SKIN**). Wrap the covered hot water bottles together with the dog in the blanket. Pull the blanket out over the dog's nose (make sure he can still breathe freely), so that he can breathe in warmed air. **Open up the blanket frequently to check and make sure the dog can breathe freely under the blanket.** If the dog is conscious, you may offer him warm liquids to drink.

YOU MUST NEVER re-warm a chilled animal too rapidly. The still relatively colder blood from the legs and skin could throw the heart muscle into fibrillation (a type of "heart attack" that can be fatal). Bring the dog **immediately** to the veterinary hospital. If the dog appears to be severely injured, **do not waste a moment in getting him to the vet.**

FIRST AID:

- a) Bring the dog to a warm place.
- b) Wrap the dog in a blanket; take his temperature.
- c) Enclose the covered hot water bottles in the blanket against the dog.
- d) Pull the blanket up over the dog's nose, **making sure the blanket does not obstruct his free breathing.**
- e) Keep opening up the blanket frequently, just enough to monitor the dog's breathing (air-exchange).
- f) Offer the dog warm liquids (ONLY IF DOG IS CONSCIOUS!!)

- g) Transport to vet ASAP.

24.) Electric shock.

Electric shocks occur often, especially when puppies or young dogs are playing. If you find an animal in the vicinity of an electrical device or cable, and the animal does not react normally to a shout or loud call, **DO NOT TOUCH THE ANIMAL!!!!** If the animal is still in the grip of an electric circuit current, you could place yourself in extreme danger!!! Always pull the plug out of the electric socket **FIRST**, and then tend to the animal.

the electric current may have severely damaged the dog's heart, and even also muscle and nerve tissue. If the dog is unconscious, proceed as in **Section #18 (Unconsciousness)**.

IF breathing and heart function are present:

- stretch out the head and neck
- open the mouth
- pull the tongue forward
- place the dog with his right side down and take to the vet.

IF the heart is beating but the dog is not breathing:

- give artificial respiration
- Proceed as under **#19. (Respiratory arrest)**

IF the heart is not beating:

- apply cardiac massage
- Proceed as under **#20. (Cardiac arrest)**
- **TRANSPORT ASAP TO VETERINARY HOSPITAL**

Contact with an electric current results at times in very severe burns. Cover these with sterile wound compresses that have been well moistened with 3% hydrogen peroxide. **Burn wounds are at EXTREMELY high risk of becoming infected.** However, do not spend much time dressing the burn injuries as they are secondary at this time.

THERE IS GREAT DANGER OF SHOCK OCCURRING HERE: **See section #17.**

25.) Drowning/suffocation:

If you want to save a drowning animal, always think first about your own safety!! In case of drowning, water gets into the lungs of the animal and then oxygen exchange is impossible. Any fluid that gets into the lungs can always cause infection of the lung tissue that leads to pneumonia.

In case of asphyxia (suffocation), a foreign object has become lodged in the airway and the animal does not receive enough air into the lungs.

In the case of buried animals, there is sand or dirt (earth) lodged in the airway.

If the animal after being saved is conscious and can breathe, there is not much First-Aid that you can do. If the animal is hypothermic (chilled), keep it warm and transport it to the vet ASAP.

If the animal is not conscious, lift it up by its hind legs (**HOLD THE LEGS BY THE PART CLOSEST TO THE BODY - I.E., BY THE THIGHS- ALWAYS ABOVE THE HOCKS. DO NOT HOLD THE ANIMAL BELOW THE HOCK JOINT BECAUSE OF RISK OF DISLOCATING THE JOINTS**). Lift the animal high enough so that the head hangs down and the water can run back out of the lungs and out the nose and mouth. An assisting person can lightly strike the dog on the ribcage, in order to expedite the running of the water out of the lungs.

In this way, keep holding the dog up in the air with head hanging down for about 20 seconds. After that you can place the dog so that he is lying with his right side down, and you should now monitor the heartbeat and see that the breathing begins again. IF there is no sign of heart or breathing activity, you should proceed as under **section #18 (unconsciousness), and/or section #19 (respiratory arrest) and/or section #20 (cardiac arrest).**

Also: Even if the animal after a short time begins to function normally, it should ALWAYS be taken to the vet for a checkup and treatment to prevent infection.

If you suspect a foreign body in the throat, proceed as under **section 10.) D.)** Inspect the mouth cavity. If the animal is unconscious, you can safely reach deep into the throat to search for possible foreign objects. If the foreign body might also be in the windpipe (trachea), lift up the animal by the hind legs (grip above the hocks - between hock and stifle) and shake the animal. If the foreign body still does not fall out, continue to hold the dog up by the hindlegs and have an assistant take hold of the rib cage between his hands and compress it suddenly between the hands, repeating this maneuver over and over several times. If there is still air in the lungs, the foreign body can be forced out by the force of the compressed air coming out of the lungs when the compression is performed. After that, proceed as described above.

With an animal that has been buried under earth/sand etc., proceed exactly as just described for foreign bodies in the throat.

FIRST AID:

- a) Hold up the animal by its hindlegs / assisting person thumps on the ribcage / or the animal can be shaken moderately.
- b) With foreign bodies in the windpipe: assisting person applies rapid, sudden compression of the ribcage between his hands.
- c) Inspect the mouth cavity and the throat.
- d) Lay the dog with his right side down; observe closely for heartbeat and breathing function.
- e) Stretch the head and neck out; open the mouth; pull the tongue forward.

If the heart beats but there is no breathing:

- f) Apply artificial respiration as in **section #19**.

If there is no respiration and no heartbeat:

- g) give additional cardiac massage, as in **section 20**.
- h) TRANSPORT TO THE VET ASAP.

26.) Insect bites/stings:

Insect stings are very painful and furthermore, they can be very dangerous. If the sting occurs within the mouth or throat region, so much swelling may develop that breathing is made very difficult or impossible (airway swollen shut). Moreover, future insect stings can result in ever more severe allergic reactions. The only insect that leaves behind its stinger at the site of the sting is the bee.

You will recognize the sting site by the pain caused on palpation, the swelling of the tissue, and the reddening of the skin or mucous membrane at the sting site.

- a) Remove the stinger with a pair of tweezers (Caution! Not with your fingers -- the sting may bore into your skin, and the remains of the venom can be deposited in your finger from the still-attached venom-sacs on the stinger.)
- b) Cool the sting site with an ice-bag or with moist-cold towels.
- c) Transport to the vet.

If the sting site is found in the mouth cavity or in the throat, you should cool the area only with an ice-bag. Hold the ice-bag against the throat and the region of the larynx from the underside of the neck, during the immediate transport to the veterinarian.

If the throat is swollen shut and the dog is not getting air through the mouth to the airway, there is nothing you can do except wait. If the animal becomes unconscious OR if the animal will allow the following measures to be done, you should begin to assist the breathing: Do this by carrying out mouth-to-nose resuscitation. IN DOING THIS YOU MUST TAKE THIS SPECIAL ACTION: THE AIR THAT YOU BLOW INTO THE DOG'S NOSE AND ON INTO HIS LUNGS MUST BE FORCED BACK OUT OF THE LUNGS BY APPLYING COMPRESSION TO THE RIB CAGE AS PART OF EACH CYCLE OF THE RESUSCITATION!!!!

Proceed as under section 19.) B) above, except that you should NOT pause after one minute of resuscitation cycles, since the dog in any case cannot begin to breathe on his own (with his throat swollen shut). As fast as possible, get him to the vet (without stopping the resuscitation cycles).

!!!After every insect sting or bite, you must be prepared to deal with an allergic reaction. This will begin with signs of impending shock. You should handle this situation as in section 17.) Shock.

NOTE: Even if the sting site is not in the mouth cavity or in the throat, an acute allergic reaction can produce a shock condition that will cause the lining of the larynx to swell up and shut off the air passage. **You will see the same symptoms and you should use the same FIRST-AID procedures as shown above for cases of swelling shut of the throat.**

Should you become aware that your dog has built up an allergy to insect stings, you should speak with your veterinarian about medical measures (drugs) that you yourself could administer to the dog in case of an extreme emergency.

27.) Burn accidents:

Burn accidents have very serious consequences. On the one hand there may be varying degrees of serious burning of the skin and even the deeper tissues. On the other hand, there can be smoke-inhalation injury that is very unsavable and life-threatening. In breathing very hot air during a fire, the heated air will burn the mucous membranes lining the airways. Soot particles and toxic smoke-components are deposited like a film over the mucous lining membranes of the air passages. This can produce carbon monoxide poisoning and oxygen starvation.

!!! NEVER put yourself in danger in order to save an animal from a serious fire. You may regret it heavily for the rest of your lifetime.

If you can safely save the animal, bring it immediately into fresh air. Check then whether the animal is conscious, whether it is breathing, and whether there is a heartbeat.

Then proceed, as needed, according to:

-Loss of consciousness: Section 18.)

-Respiratory arrest: Section 19.)

-Cardiac arrest: Section 20.)

In case of a serious emergency, lose no time: Carry out the most important FIRST-AID measures, and then GET THE ANIMAL IMMEDIATELY TO THE VETERINARY HOSPITAL.

BURN WOUNDS:

Burn wounds are always very painful injuries. They are divided into various classifications according to the degree of seriousness of the burn:

-First degree burns: Pain, swelling, reddening of the skin.

-Second degree burns: Pain, swelling, skin reddening, and blister formation in the skin.

-Third degree burns: Pain, swelling, redness, blistering, and variable degrees of charring of tissue on a large scale.

As the very FIRST help measure, the burned areas must be cooled off under cold, running water. **Do NOT rub the surface of a burn wound -- only let the water flow over it.** NEVER use old "household recipes", such as flour or butter. Do NOT apply sprays or salves to the burns! Place ONLY sterile wound-compresses, which have been moistened with 3% hydrogen peroxide, on the burns when dealing with second and third-degree burns.

In cases of serious and large surface area burn wounds, bring the animal **immediately** to the veterinary hospital.

For each burn victim, there is always the danger of shock!!! See Section 17.)

28.) Carbon monoxide poisoning:

This problem occurs in burn victims, but also in animals that breathe in automobile exhaust fumes. (For example, transporting the dog in the trunk of a car in which the exhaust fumes are able to get into the trunk!!)

Carbon monoxide interferes with the "internal respiration". Chemically, it behaves very much like oxygen in that it replaces oxygen in the red blood cells.

One can recognize this poisoning by its distinctly strong clouding of the consciousness, clear up to unconsciousness. The mucous membranes are strongly colored with a bright red cherry color. Depending upon the length of time that the dog was exposed to the gas, the situation can be further complicated by respiratory and cardiac arrest.

FIRST AID:

The VERY FIRST THING is to bring the dog out into the fresh air. Further life-saving measures such as artificial respiration and cardiac massage must, if needed, be performed **immediately**.

- a) Bring dog immediately out into fresh air.
- b) Examine the animal for consciousness, respiratory function and heart function.
- c) If unconscious: Proceed as under Section 18.)
If not breathing: Proceed as under Section 19.)
If no heart beat: Proceed as under Section 20.)
- d) **Transport to the veterinary hospital.**

29.) Poisoning in general:

There are countless substances around that are poisonous, and the possibilities for the dog to become poisoned are very numerous. Also, the appearance or symptoms of any one poisoning may be quite variable. **In doubtful cases, ALWAYS consult your veterinarian!!**

If you see that the dog has eaten something that may be poisonous, go immediately to the veterinary hospital. If the poison is still in the stomach, the vet can administer an emetic (a drug that causes vomiting) so that the greatest portion of the poisonous material can be brought up out of the dog's stomach by vomiting. If the material is already past the stomach and into the intestine, this method (causing vomiting) will not work.

Always look around in the vicinity where the dog picked up the poison, to see if there is any more of the substance to be found. Put some of the substance in a handkerchief and bring it along to the vet--- many poisonous substances have a characteristic form, color, odor etc. You can help the veterinarian VERY much by doing this!! Also, if you find some packaging or wrapper or container of a suspected poisonous substance, you should ALWAYS bring this along to the vet.

If there are ANY signs or symptoms of poisoning (vomiting, diarrhea, difficulty breathing, disturbance of consciousness, shaking or cramps) you should handle these symptoms appropriately as described under the individual sections above. **DO NOT TRY OUT ANY "HOME REMEDIES"!!!!** At least, do not do so until you have consulted your veterinarian. The practice of giving milk or oil is unfortunately very common: BE AWARE that many poisons are particularly soluble in fat and would then, if oil or milk is given, be taken up by the body tissues even faster!

ESPECIALLY DANGEROUS PLACE: Gas stations.

Please always remember that at least in the winter, radiator water contains antifreeze (and in hot climates also as a coolant). Antifreeze/radiator coolant **contains propylene glycol which is very attractive to dogs (it tastes sweet) and extremely deadly to them (it destroys the kidneys!)** If there is any chance the dog has licked up or had access to antifreeze, take the animal IMMEDIATELY to the veterinary hospital.

ESPECIALLY DANGEROUS SOURCE: Medications.

Medications must be kept out of the reach not only of children, but also of animals! Medications may also be readily eaten by animals. Always take the drug container along to the vet with the animal. **Medications which are not dangerous to humans are still not to be given to animals!!!**

Emergency centers for poison information:

NOTE: WHEREVER YOU LIVE, YOU SHOULD FIND OUT AND WRITE DOWN (AND KEEP BY THE TELEPHONE AS WELL AS IN YOUR WALLET) THE PHONE NUMBER(S) OF THE NEAREST POISON CENTER HOTLINE. THIS FIRST-AID MANUAL CAME FROM GERMANY WITH ALL THE GERMAN POISON CENTERS LISTED, BUT HERE IN THE U.S. EACH DOG OWNER SHOULD FIND OUT THE NUMBERS IN YOUR OWN AREA. ASK YOUR VET FOR VETERINARY POISON CONTROL CENTER NUMBERS, BUT ALSO FIND OUT THE HUMAN ONES. THESE NUMBERS SHOULD BE KEPT WITH YOU AND BY EVERY TELEPHONE IN YOUR HOME.

Use the space below to write in name, address, phone of nearest human and veterinary Poison Control Center(s):

30.) Spasms (muscle cramps) and Seizures (fits):

Spasms always appear very serious to the onlooker, but luckily they are seldom life-threatening. Spasms and seizures can have many different causes. **(Not every dog that has a seizure is an epileptic.)** Cardiac and circulatory disorders, injuries to the cervical (neck) vertebrae, and also poisonings can produce convulsive "attacks". These attacks may last for varying lengths of time-- from a few seconds up to several minutes. Occasionally an animal will go into a condition called "status epilepticus" in which it will not stop convulsing-- the seizure is continuous, even for hours. **[Translator's note: "status epilepticus" is a LIFE-THREATENING condition: The dog MUST be brought to an Emergency Veterinary Clinic very soon for intravenous sedation or it will DIE of exhaustion.]**

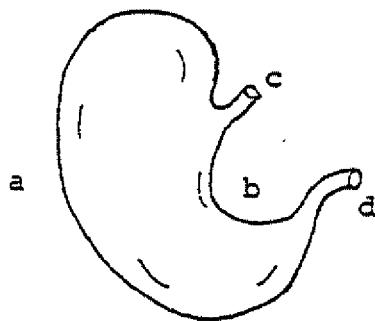
If you see a dog having a convulsion, do NOT panic. There is not much that you can do. NEVER try to hold onto (restrain) a convulsing animal!! Also, do NOT try to drive any kind of object in between the teeth!! Your first action should be to protect the dog from injuring itself against walls or other objects. Do not lift the dog up, but rather take hold of the hind legs and pull the dog away from walls and objects. Wrap the dog in a blanket or bedspread. Call your veterinarian (after hours call Emergency Clinic) and ask the veterinarian what further measures should be taken. If another seizure occurs within 1 to 2 hours, or if the dog does not stop convulsing within 10 minutes, you should carry the dog (wrapped in the blanket) to your car and take it to the veterinarian/Emergency Clinic right away. Try to remain calm during the trip to the vet. Do not allow yourself to become upset or irritated by the cries of the animal. Animals are not conscious during such attacks, and they do not feel pain!!

FIRST AID:

- a) Remain CALM.
- b) Protect animal from injury: - Pull him away from walls and obstacles.
- Wrap him in a blanket.
- c) Phone your veterinarian or Emergency Clinic.
- d) Transport to veterinarian (still wrapped in blanket).

31.) Gastric torsion (gastric dilatation or "Bloat"):

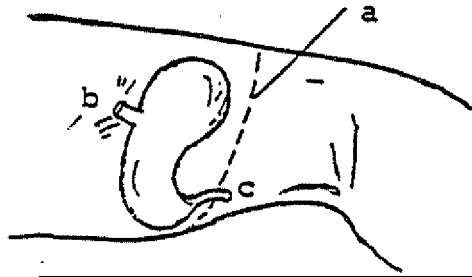
First, there are some points you should know about the anatomy of the stomach and the conditions which can give rise to stomach torsion (bloat). Grossly simplified, the stomach is "fixed" (held in place) within the abdominal cavity at essentially two places. The esophagus (tube that carries food from throat to stomach) enters the stomach from in front, after passing through the diaphragm, and it opens into the stomach right after it passes through the diaphragm. On the other side of the stomach, a tube leaves the stomach and becomes the first part of the small intestine which is called the "duodenum". Thus, the stomach is not positioned there like a pipe or a spherical structure, but more like an asymmetrical pouch with a greater and a lesser curvature:



- a) greater curvature
- b) lesser curvature
- c) esophagus (enters the stomach)
- d) duodenum (leaves the stomach)

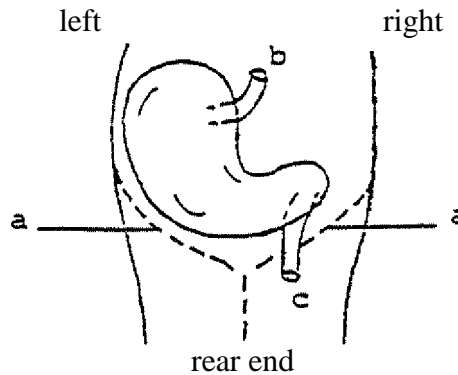
When the stomach is lying in its normal position, its most forward part and its most upper part lie just under the rear-most ribs on the left side of the body. The hind-most portion of the stomach lies further back towards the right and towards the underneath part of the dog's abdomen:

side view:



- a) end of rib cage
- b) esophagus (entering stomach)
- c) duodenum (leaving)

viewed from above:



Additional ligaments secure the stomach in still other places within the abdominal cavity, for example to the liver and the spleen. These ligaments are not very tight, but rather they are constructed to stretch, so that the stomach may have freedom to move about depending on the circumstances of its fullness of contents. All of the incoming and outgoing blood vessels run along the course of the esophagus, the duodenum and their suspending ligaments.

How does the stomach become torsed (twisted on its suspending ligaments)?

The stomach "hangs", predominantly secured by the esophagus and the duodenum, like a pouch or sac hanging from the upper abdominal cavity. The stomach, with its greater curvature on the underside as shown in the sketch, can swing to and fro, back and forth on its suspending ligaments, and this "swinging" movement is encouraged according to how full the stomach becomes with water and/or food. When the dog himself is also moving, the "swinging" or pendulous movement of the stomach is much more forceful. This forceful swinging can lead to a complete turning over, a complete twisting revolution of the stomach around its long axis. Especially dangerous are movements of the dog which are directed forward and downward, and then suddenly halted, for example when the dog runs down an incline (slope) or down a flight of stairs, or when he jumps off of or over an obstacle.

Which animals are especially at risk for this condition?

All large dogs with a deep and wide ribcage have a greater freedom of swinging of the stomach. In particular, dogs with soft, slack connective tissue often have no firmness in the stomach's attaching ligaments. These ligaments, because of their weakness, are not effective in holding the stomach in its proper position. Animals which have just eaten food or have just drunk a large amount of water, have thereby encouraged exactly those conditions that strongly promote swinging of the stomach. **Especially dangerous are highly active movements of the dog right after eating or drinking a lot of water.** Poorly digestible food consisting of large pieces, poorly cooked foods, and very large portions of food greatly increase the risk of stomach torsion (bloat) occurring.

Animals which have already had stomach torsion and have survived but have not had the stomach surgically secured in position, have been shown to have a risk of repeated torsion of more than 80%!!!

Other causes of gastric torsion include attacks of indigestion, gastroenteritis with vomiting and diarrhea, and delayed gastric emptying, among others.

The above-mentioned animals and circumstances represent especially dangerous sources for gastric torsion. However, it should be understood that gastric torsion MAY also occur when there is very little food in the stomach, and also in small dogs, and even in puppies and in cats.

What happens when the stomach undergoes torsion?

- a) Even small amounts of food, during the process of digestion, produce gases in the stomach. These gases are normally expelled either back up through the esophagus ("burped") or out through the gut ("passing wind"). However, if the esophagus and/or the gut is closed off by the torsion of the stomach, the gases continue to accumulate and distend ("BLOAT") the stomach, and can even cause rupture of the stomach wall!!!
- b) The bloated (distended) stomach presses forward against the diaphragm. The breathing and the heart action become greatly suppressed. Further pressure from the bloated stomach compresses the large blood vessels traveling through the abdominal cavity (the aorta, the vena cava).
- c) The blood vessels entering and leaving the stomach become obstructed by the torsion and by the increasing pressure from the accumulating gases. Metabolic waste products and carbon dioxide are not transported out of the abdominal tissues, and new oxygen-carrying nutrient-rich blood cannot get through to the stomach. Tissues are severely injured and may die. The stomach wall becomes "thinned out" and then smaller and then larger amounts of stomach contents leak

out into the abdominal (peritoneal) cavity, causing massive peritonitis!!!

- d) The spleen, which is attached closely to the stomach by a ligament, is **always** torsed (twisted) along with the stomach. The veins, with their softer (non-muscular) walls, are shut off first (before the thicker-walled arteries). Blood can no longer flow out of the organs, but arterial blood can still flow in. The most serious damming-up effects are as follows:
 - 1.) The spleen tissue is severely damaged and can be destroyed (die).
 - 2.) Large amounts of blood have pooled (accumulated) in the organs and are thus removed from the general blood circulation volume.
- e) The above-described circumstances lead very rapidly to life-threatening circulatory problems and stress upon the heart, leading to **circulatory shock**.
- f) Panicky anxiety and severe pain further worsen the already grave situation.

Signs of gastric torsion:

The moment the stomach undergoes torsion, the dog receives a brief bout of pain which, at most, causes him to give out a brief howl of pain in the middle of his activity. After that, the dog will usually continue to run here and there anxiously but cautiously, with an obviously tucked-up stomach and a hunched, rounded back. He will lie down for a short time in one place, then get up again right away. After a short time he will attempt to vomit (retching, choking) but without success because the esophagus is twisted shut. This can be repeated many times. If a dog in this condition tries to drink water, he will vomit it up almost immediately. The distention of the stomach by the gases occurs over minutes or hours, and can be seen and felt from the outside. The front part of the abdominal cavity, and progressively the rear part of it, becomes evermore wider and fuller. The shape of the animal appears "blown up" (bloated). If one taps with a finger on the distended stomach and the rear-most ribs, the sound rings "hollow" like a drum.

The visibly worsening circulatory situation next becomes even more obvious because of the increasing anxiety. Further progress of this severe condition changes the picture suddenly to one of apathy. The animal pants heavily, and the breathing becomes increasingly difficult. The animal groans and moans from the pain. The pulse is very fast and becomes so weak that it can barely be felt. The visible mucous membranes were initially bright red, but are now almost white.

This illness picture can develop so fast that dramatically life-threatening conditions may be reached within 30 to 60 minutes, after which time the animal already is unable to walk or stand. **IF IMMEDIATE VETERINARY HELP IS NOT OBTAINED FOR THE ANIAML, IT WILL DIE WITHIN A VERY SHORT TIME.**

What should you do?

Any time that you have the slightest suspicion that your dog may have gastric torsion, DO NOT LOSE ANY TIME!!! Immediately call your veterinarian (or Emergency Clinic), so that certain preparatory measures can be taken at the vet hospital and no valuable time will be lost. If you know that the clinic/hospital is open, you should drive there immediately and instruct another person to make the call to the veterinarian. **EVERY MOMENT IS VALUABLE AND CAN MAKE THE DIFFERENCE BETWEEN LIFE AND DEATH FOR THE DOG.** On the way, try to calm the dog so as to avoid further agitation and stress.

What can you do if you cannot find an available veterinarian or Emergency Clinic?

Do NOT allow yourself to become panic-stricken, because in that state of mind you will be unable to function appropriately or at all!!!

If you believe that the dramatic situation is being caused by the stomach being extremely distended by gas (bloat), then you should be aware that there is something you can do: The gas **MUST** be released from the stomach. It cannot leave the stomach through the natural channels, therefore you must puncture the stomach: **THAT IS**, you must from the outside stick a large-bore needle through the wall of the stomach, so that the gas can escape from the stomach through the needle.

You should have a talk with your veterinarian, so that he/she will provide you with the appropriate instrument(s) (several sterilely packaged large-bore needles **of appropriate length for use on your size of dog**) and will also familiarize you with their use.

To perform the puncture, the dog should be laid down on its side and should be restrained by an assisting person, so that it will not try to get up. According to circumstances, the stomach can twist in either direction and for variable distances. **Because of this, you must determine which side is the correct side in which to make the puncture.** Using the **END** of your fingertip, tap sharply (single tap, waiting several seconds before tapping again) just behind the last ribs, on both left and right sides, and find out which side sounds more "hollow". The "more hollow" sounding side will be the "puncture side", and you should lay the dog down with the "puncture" side facing up.

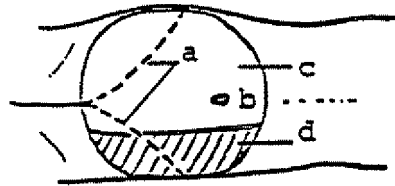
Insofar as you have a scissors and some disinfecting solutions at hand, cut away the hair from the area in which you plan to make the puncture, and disinfect the skin (as well as your own hands!). **BEFORE making the puncture, check again by tapping to make sure you are where the "hollow" sound is.**

THIS SKETCH SHOWS DOG LYING ON RIGHT SIDE (LEFT SIDE UP). The dog's belly is facing you - that is, you are NOT "looking down" on the dog from above.

upper side

front end

underside



a) last ribs on both sides

b) navel

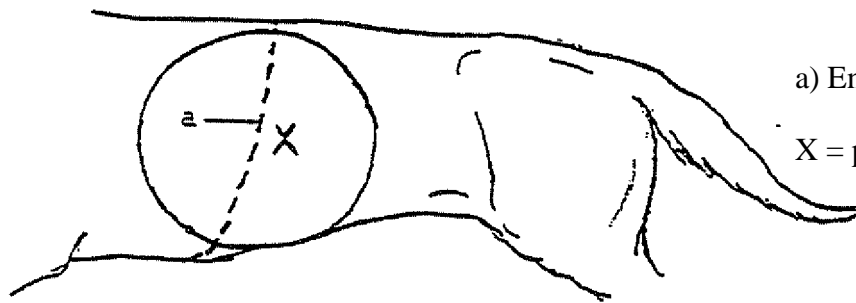
c) gas in stomach

d) food/water

POSITION OF THE PUNCTURE SPOT:

(This sketch shows puncture spot on left side. If puncture is to be made on right side, the sketch would merely be "flipped over" as a mirror-image.)

The puncture is made about midway between the line of the back and the line of the belly, about 1.5 to 2.0 inches behind the last rib that you can find by feeling:



a) End of rib cage

X = puncture spot

You must make the puncture **fast and courageously!!!** - in order to insert the large-bore needle deep enough (in a German Shepherd Dog, you can insert the needle 2.5 to 4.0 inches safely.) **Try not to cause the dog unnecessary pain by making faint-hearted pokings and pushings. MAKE THE STAB FORCEFULLY!!**

When you have the needle inserted, inspect and determine whether gas is escaping out through the needle. Should there be no escape of gas, it could be because food particles are lying in front of the needle tip, OR, you have not driven the needle in far enough but have only stuck it into the abdominal wall or into the stomach wall. In case of a severely distended stomach, the needle-point will reach the interior of the stomach after being inserted only about 1.25 to 1.5". Draw up (suck in) air into a fairly large injection-syringe (sterile, also obtained from your vet) and inject the air into the stomach. This will push away food particles or eject pieces of tissue that have been blocking the needle. Try to release as much gas as possible. **If the dog behaves quietly and will be restrained by someone during transport to the vet, the needle may be left in position in the inside of the stomach during the transport.**

By puncturing the stomach and releasing gas, you greatly relieve the suffering of the dog, and you win some time. HOWEVER: UNDERSTAND THAT A SUCCESSFUL

PUNCTURE DOES **NOT** IN ANY WAY SUBSTITUTE FOR GOING TO THE VETERINARY HOSPITAL!!!! [Translator's note: There are many additional procedures that must be done on the dog, by the vet, in order to complete successful treatment of gastric torsion and help prevent its recurrence!]

Should the transport to the veterinary clinic/Emergency Clinic require a lot of time spent, you must repeat the puncture periodically IF you are unable to leave the needle inserted in the stomach, because the stomach will keep on blowing up with gas. **Also: Before you start off to the vet, CALL him/her (or the Emergency Clinic) and advise the vet that you are on your wa "Bloat Case", so that the vet can make necessary preparations before you arrive, and thus no time will be lost.**

NORMAL VALUES FOR THE DOG AT REST

1	Body temperature	100°F - 102°F
2	Respiratory rate	About 20 - 30 breaths/minute (large dogs) About 30 - 50 breaths/minute (small dogs and puppies)
3	Pulse (heart rate)*	About 80 beats/minute (large dogs) About 80 - 120 beats/minute (small dogs and puppies)
4	Mucous membranes (gums, eyelid lining, underside of tongue)**	Normal color: Pink

***[Translator's note: Heart rates can be much lower in any dog that is given physical conditioning (endurance training).]**

**NOTE: On physical exertion, these values will increase correspondingly, and the mucous membranes become deeper pink to red in color.

The above four features should be examined in any dog.

"MNEMONIC" (a way to memorize and remember): T R P M

- T emperature
- R espiration rate
- P ulse rate
- M ucous membranes

THIS PAGE IS FOR YOUR OWN NOTES: