

CHARTS
OF THE
DISEASES OF THE HORSE

BY
CHARLES GRESSWELL, M.R.C.V.S.

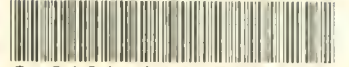
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Charts of the Diseases of the Horse





Chas. Gesswell.

CHARTS
OF THE
DISEASES OF THE HORSE

With Explanatory Notes and Prescriptions

BY

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Preface.

The work which follows was written, as the title-page shews, by the late Mr. Charles Gresswell, M.R.C.V.S., and it is now offered to the public for the first time, at the request of the widow, residing at Mill Valley, Marin Co., California, U.S.A., some little distance from San Francisco, the scene of the recent disastrous earthquake. The chief point aimed at by the author, who wrote most of the book at San Francisco, was to produce a practical guide to the treatment of the ordinarily-met-with ailments of the horse. Unfortunately he died at Denver before being able to find time, amid multifarious duties, to carry the work to completion. However, what was requisite has been done, and the work arranged for the Press. Although this posthumous production has, owing to his untimely decease, not been subjected to final revision by the author, whose labour of love it was, it is still with pleasure that we are placing it completed before the public, and so fulfilling his purpose.

GEORGE GRESSWELL.

*Kelsey House, Louth, Lincolnshire,
October 18th, 1906.*

Introduction.

Many elaborate treatises have been written on the diseases of the horse, suitable for students of veterinary medicine and surgery, and many other excellent works, with less scientific pretensions, have been written for the use of the owner of horses; but they all lack, especially the latter, one important feature—a ready and quick method of diagnosis.

To the ordinary horseman, without any special scientific training, the want of a ready method of determining a disease is a great impediment. When his animal is in trouble, he wishes to do the best he can for it at once; but he has no means, in any book hitherto published, of finding readily what he wants, unless he is expert enough to recognise the disease respecting which he wishes information.

The acute diseases of the horse are rapid in their course. Immediate action is very often imperative, and there is no time to hunt through many pages of a book, in order to discover what should be done.

The object of this work is to enable the horseman to quickly ascertain the nature of the disease his animal may be suffering from, and to refer at once to the treatment required.

It is hoped, however, that its possession will not lead anyone to attempt too much. The natural recuperative vitality of all animals as well as man, will, under favourable conditions, restore the equilibrium which slight disturbances remove, without the aid of drugs. Simple remedies will cure a large number of graver derangements. The very serious cases require a high order of ability for proper treatment. The requisite skill is not possessed by ill-trained or semi-educated pretenders to a knowledge of veterinary science. Yet any capable owner or superintendent of horses, may, with this work, be

enabled to successfully manage all cases of ordinary sickness on an emergency equally as well as anyone save a scientifically equipped pathologist.

A horse shows distinctly by signs and symptoms where the trouble lies, and while diseases run their course with exceptional rapidity in this animal, still it responds quickly to remedial action. Therefore, it should be remembered that while energetic measures are sometimes urgently necessary, full allowance must be made for the opportunity of action, if due time be given. In stoppage of the bowels (a very frequent disease of the horse), so long as pain is held in check with anodyne medicine, and one good purgative dose has safely been administered, reliance should be placed on its successful effect, and the cathartic never repeated in less than twenty-four hours, as is so frequently done by nervous attendants. No ordinary * aperient will act in the horse in a case of stoppage of the bowels in less than sixteen to twenty hours, and many a valuable horse has been lost from superpurgation, by repeating the laxative once, and sometimes even twice, before the first dose has had time to do its work.

A similar error is made in the repeated administration of medicines to act on the kidneys. The ordinary quack seems to have a habit of acting on these organs with the most drastic drugs.

As a matter of fact, disease of the kidneys is a comparatively rare malady in the horse, and the retention of urine in cases of colic is almost always the result of participation by the neck of the bladder, in the prevailing cramp or spasm of the muscular coat of the

* Intravenous injection of sulphate of physostigmine acts powerfully and with great celerity; but such drugs as this and such methods can only be safely used by the highly-trained surgeon.

bowels. As soon as the latter is relieved, the bladder is likewise eased, and the empiric may believe his violent action on the kidneys has caused the relief, whereas, in reality, the temporary stoppage of the urine may have had very little to do with the pain manifested.

While it is true that an occasional use of mild diuretic medicine is beneficial for highly-fed horses, especially during periods of enforced idleness, yet it is a grave error—one of the worst—to be always dosing an animal with powerful drugs to act on the kidneys. Saltpetre or nitre, though beneficial when well used, has, in the hands of the incompetent, ruined many horses.

A tablespoonful of No. 16 medicine, given occasionally in the food, is all that is necessary to help the kidneys to act well.

An important point to remember is to stick to one line of treatment, and not become unduly anxious, and change suddenly to anything recommended by any friendly adviser. Disease can often be successfully combated by different methods, if they are duly carried out, but rarely by a mixture. The methods advocated are definite, have been well tried during the last fifty years or more, and will, with patience, secure desired results, if not spoilt by the use of additional ill-advised measures. The modes of treatment are simple, and should not be superseded, except after the best scientific advice. That they will always be successful is, of course, obviously impossible, as several diseases cannot be cured by any human agency; for instance, that peculiar form of acute intestinal inflammation sometimes termed apoplectic, in which a length of several feet of bowel is involved within two or three hours after the first symptoms of sickness are apparent. In such cases the animal usually dies in six to twelve hours. Similarly, cases of ruptured stomach, diaphragm, or intestine, and those of twisted bowel, also starting with colicky symptoms, result in death in eight to twenty-

four hours. Other fatal diseases might be mentioned, which no surgery nor medicines can relieve. In such cases the horse is practically doomed from the start. The author recommends that in case of death, a post-mortem examination should be made by a veterinarian. From no other source can such valuable information be obtained for future guidance, and it is always a satisfaction to know if the right diagnosis has been made.

Above all things, avoid secret remedies, and those advertised as "certain cures." One's aim should be to remove the cause or causes, and assist the natural functions to restore the equilibrium. For this reason, avoidance has been made in the treatment columns of the mention of numerous strong alkaloids, and powerful anti-febrifuges. At times they are very useful agents, but the danger of damage from their reactionary effects is too great for a general recommendation of their employment by any but qualified men.

The charts do not cover all the variations of disease, nor can they enable every reader to become an expert and scientific veterinarian. Such a result can only be accomplished after a thorough ground-work in the sciences of physics, biology, chemistry, and pathology, combined with years of practical experience. Their purpose is, however, to make the horseman superior in knowledge of the ordinary diseases of the horse, to the many empirics and quacks, unfortunately pretending to be able to cure the diseases of the horse, and to make any intelligent horse-owner, farmer or ranchman, independent of the services of ignorant pretenders and empirics.

While the work is meant more for the use of men living at a long distance from scientific assistance, and also for the many simple cases for which it would not pay to send for the qualified surgeon; at the same time, the author hopes it will prove of value to the

student, and also, to some extent, serve as a ready reference for the busy practitioner, as it is not only arranged on scientific principles, but also includes, in the treatment columns, the combined practical experience of the writer for over thirty years in the United States and England, and also that of the writer's father, the late Mr. Alderman Dan Gresswell, F.R.C.V.S., for a period of thirty-five years preceding, whose practice was one of the most varied and extensive in England.

This work is not intended to take the place of other reference books, but to be an auxiliary; and strong recommendation is

hereby made of the special Report on the Diseases of the Horse, issued by the United States Department of Agriculture as the most useful and practical treatise, by which the horse-owner can be guided in that country. It is expected that the charts will enable the horse-owner to use the book issued by the Government to much greater advantage than he could without such assistance.

CHARLES GRESSWELL, M.R.C.V.S.

222, *Hayward Buildings, San Francisco,*
California, U.S.A., May, 1904.

CHAPTER I.

Explanation of Charts and Additional Hints.

THE most common diseases of the horse have been divided into ten groups, nine of which have more or less separate and distinguishing symptoms. The tenth group is composed of those external diseases, of which the symptoms are for the most part evident on sight. In each group the general causes, symptoms, and treatment are given, followed in parallel columns with the specified diseases of each group with their special causes, symptoms and treatment.

The general causes and symptoms of the diseases of the horse are given in the first and second columns respectively, and are so arranged that the reader will, by a few minutes' reference, be able to determine the group of diseases from which the animal is suffering.

In the third column will be found the general treatment for each group. In the fourth column, the various special diseases belonging to each group appear, and three further parallel columns, viz., the fifth, sixth, and seventh give the specific causes, symptoms and treatment, of each of such special diseases.

The symptoms are concisely and plainly stated, and as far as possible without using technical terms. Since confusion may be caused by the repetition of such symptoms as are common to most diseases, such are consequently for the most part omitted. The general treatment advised for each group of diseases, will, in many cases, suffice. The determination of the special disease of the group, with the specific treatment for such, is intended to be auxiliary to the general treatment. While better results will be obtained if the special diagnosis be made and the special treatment followed, in many of the simpler cases it will not be absolutely essential that this exact determination should be arrived at, providing the general treatment be carried out. More precision will be gained by continued practical experience.

In the treatment columns, reference is made to medicines which should be used, and for the most part these are embodied in a series of prescriptions, which are attached, but

on the charts are referred to by numbers only. All these prescriptions are written in plain English, and can be compounded by the chemist, and the medicines recommended can be obtained at any reputable drug store. No reference is made to proprietary or patent medicines, nor do any of the prescriptions refer to difficult or secret methods of preparation, nor to private recipes, nor to drugs that are not in general use. Indeed the prescriptions given contain either the same or equally as good properties as are contained in the best patent or secret remedies now on the market. Some few of the compounds are identical with widely advertised remedies, but are herein only recommended for such special use as they are good for.

The two other columns referring to the causes of disease, both general and special, will frequently aid in diagnosis, and in all cases contain information serviceable as a help towards a prevention of the disease in future.

The prescriptions which are appended are, as above stated, mentioned by number in the treatment columns.

In order to determine the disease a horse is suffering from, the reader will first look down the column headed *General Symptoms*, and determine the group of diseases indicated. In most simple cases, the *General Treatment* will be all that is required to effect a cure, especially in the groups devoted to abdominal and chest diseases; and in most cases the *General Treatment* should be at once carried out. By further reference, however, to the *Special Symptoms*, the special disease of the group can be readily determined, and when this has been done, the *Special Treatment* recommended should be added to, or substituted for, the *General Treatment*, as appears in the instructions.

Money and trouble will be saved by heeding the following suggestions and rules.

Shoulder lameness is comparatively rare.

Half the cases of lameness in front are in the feet, or adjoining structures, and more than three-fourths of those behind are in the hock. In all cases of lameness in front, have

the shoes taken off, and the feet carefully examined for pricks in shoving, corns, bruises, and other injuries.

Don't allow the blacksmith to cut away the horny bars of the foot, for they prevent contraction of that structure.

Don't believe any man who claims he has a "certain cure" for spavin, ringbone, roaring, or broken-wind.

Don't exercise a horse with colic, nor think every horse with abdominal pain is suffering from "stoppage in its water."

Don't allow your horses' mouths to be burnt for "Lampas," nor their teeth constantly filed. An occasional filing of the molars of old horses is advisable, and at times special dentistry is required, but periodical filing of

the teeth of young ones may often do much harm.

Never allow medicine to be given through the nostrils, nor any form of abuse to a sick horse. The excitement attendant upon abuse will often do great harm and make the animal worse.

Don't work a lame horse, or one which has any symptoms of ill-health; and always stop working an animal if severe diarrhoea comes on.

Remember the resisting power to disease in a horse is extremely small, and while reaction is rapid and easily induced with simple remedies, collapse may be sudden and extreme. Therefore, the important points to observe are—rest and quietude, with judicious use of the safer drugs in place of those liable to produce dangerous effects.

CHAPTER II.

Diagnosis, or the Determination of the Seat and Nature of a Disease.

An alteration from the natural structure or function of any part of the body is a disorder or disease, and is serious in proportion to the extent of the departure from the normal standard. The general characteristics of health in the condition of normal repose in the horse may be stated and spoken of as follows:—

- 1.—Brightness of eyes and skin.
- 2.—Light pink colour of the mucous membranes of the eyes, nose, lips and mouth.
- 3.—Respirations or breathing movements should be repeated eight to ten times per minute.
- 4.—The pulse beats should be strong, and regularly recur at the rate of 32 to 36 per minute.
- 5.—The temperature should be 100.5° Fahrenheit.
- 6.—There should be no enlargement of glands, or abnormal swellings of bone or muscle, or other structures of the body.
- 7.—The appetite and desire for water should be good, with perfect capability of mastication and swallowing.
- 8.—Discharge of feces and urine should be free, and regular.
- 9.—No evidences of pain or lameness should be apparent, and there should be complete sensibility, and freedom from unnatural excitement.

In looking, therefore, for the seat or cause of disease, it must first be determined where and how the animal shows any departure from the above normal characteristics.

1.—The eye not only shows the evidence of pain, but is also dull or unduly brilliant, in correspondence with any alteration in the character or temperature of the blood; and by the general expression it gives to the facial appearance of the horse, it will, to an observant attendant, at once give notice of anything wrong. The state of the pupil of the eye should be observed. A staring coat, lacking in glossiness, is also a sign of impaired condition.

2.—The mucous membranes of the eyes, nose and mouth may become highly coloured (injected), in all inflammatory diseases. The effusion of small portions of blood, making discoloured spots on any of these membranes indicates the presence of poisons, which may be due to germs, animal or vegetable, or to other sources. A pallid condition of such membranes points to lack of normal circulation of blood, or congestion of that fluid in other important centres of the body, or simply to loss of blood by internal or external hæmorrhage. In all serious diseases these membranes lose their healthy pink colour.

3.—The breathing of an animal is altered by any interference with the action of the lungs, and this may be the result of disease in any portion of the chest-cavity or of functional disturbances of the brain, or the nerves which supply the lungs. This altered breathing may be temporary and perhaps intermittent, or persistent, in accordance with the transiency of permanency, as the case may be of the particular existing derangements. Thus, pain in any part of the body, through the nerve centres will cause a temporary alteration in the breathing for only such time as the pain lasts, whereas a structural change in the lung structures will cause the breathing to be persistently and uniformly altered, even when there is not pain. Whether persistent or temporary, any alteration in the breathing is an important factor in the determination of all diseases of the respiratory tract.

The qualified terms applied to the symptoms as mentioned in the chart in this connection must be carefully observed. Any *persistently increased frequency* of breathing beyond 16 times per minute, shown in repose, is strong evidence of disease. If the number should increase to 32 or beyond that, and remain so for any length of time, serious disease must be present, and great danger may be anticipated if the respirations rise to 60.

4.—The condition and number of pulse beats are in all animals most valuable aids to diagnosis. It is always increased in frequency in all important diseases, except in some rare cases of brain or nerve pressure and

in total collapse, when death is imminent. A whole volume could be written on this branch of diagnosis, but it will suffice here to summarise as follows:—

The pulse is best felt in the horse at the jaw where each submaxillary artery passes from between the jaws around the lower border of the jaw, beyond and up on the outside through the cheek muscles. It can be grasped there, between the first and second or second and third fingers, and the beat is distinctly felt with a light pressure. If the number remains persistently above 52 per minute, serious illness may be inferred, and there is considerable danger when 72 per minute is reached. If the pulse reaches 100, and remains at this height for some length of time, recovery is doubtful, and in the case of abdominal disease it is almost a sure sign of death. Judging the quality of pulse which shows the volume of blood passing through the artery, and thereby inferring the condition of the circulation, is an art which can only be acquired by experience. In the treatment of general diseases by an ordinary attendant, such discriminatory precision is not expected. It will be sufficient for him to know that a gradual and sustained greater frequency means an intensity of disease, and that a decreasing volume, as felt by a lessened size of the artery, shews a greater general debility. In abdominal diseases the frequency of the pulse, coupled with the degree of expansion of the artery, unmistakably point to the progress of the malady, and will most clearly indicate the chances of recovery or the reverse.

5.—The normal temperature of the horse is 100.5 deg. Fah., and all of the specific blood diseases and most of the inflammatory diseases cause very distinct and characteristic elevations beyond the normal. In slight fevers, the temperature will rise to as high as 103 degrees, or 104 degrees, and this in itself constitutes not much danger, unless it remains persistent at that height for some days. Upon the invasion of specific pathogenic germs, there may be a gradual rise each day, until a maximum of 105 degrees may be arrived at without necessarily fatal results, but if 107 degrees or even less should be reached, congestive complications very frequently occur, and it is very rarely the case that an animal will survive a temperature of 108 degrees. During the acute stage of most inflammatory attacks, a maximum of 105 degrees will be reached. While great importance must be attached to a high temperature,

the fact must not be lost sight of, that in the horse, as in children, a very high elevation sometimes occurs on the sudden access of fever, or by a check to the action of the skin, or other excretory organs. However, this high temperature very frequently can be reduced by ordinary remedies in a few hours, with practically no danger to the animal. Care, therefore, should be taken, in diagnosing from such elevations, to make sure that they are, or seem likely to be, fairly persistent, and are associated with other characteristic symptoms, indicative of serious disease, before at once concluding that the high temperature alone shews something very serious. For instance, a sustained temperature of 104 degrees, coupled with blood spots, or discolorations of the mucous membranes of the eyes, nose or mouth (any or all of them), would be indicative of an advanced stage of some pathological condition, and far more serious than a temporary elevation to 106 degrees, soon after the first appearance of ill-health. The latter might probably subside in a few hours with ordinary fever medicine, or in many cases by natural reaction. In all cases of great elevation, persistency is most to be feared. The temperature should be taken in the rectum, and a strong human clinical thermometer is best for this purpose.

6.—The importance of abdominal swellings in any part of the body depends upon the position, and whether they are or are not accompanied with local heat or pain. If they arise suddenly, and are associated with a high temperature, and local heat and pain, they constitute evidence of inflammatory action, which may result in structural deposits, or the formation of pus.

7.—Suspension of the natural appetite of a horse is invariably indicative of disease, and this symptom should never be neglected.

8.—Any serious alteration in the character of the excretions, or in the frequency with which they are expelled, should be at once noted, and the observance of such alterations will lead to the determination of a disease, belonging either to the digestive or the urinary and generative groups.

9.—The various evidences of pain shown by the horse are probably more characteristic, and lead to a more definite determination of disease, than any other symptom. Certain expressions of pain in the horse are so characteristic, that they may almost be taken as proved indications; such as, that, in all pain connected with the abdominal region, the

horse will assuredly get up and down frequently, whereas in pain connected with the respiratory tract it will rarely, if ever, lie down until the final stages. If the pain be connected with brain disease, there will be additional evidence of loss of sense accompanied by extreme dilation or extreme contraction of the pupil of the eye, unaffected by any change in the amount of light, or only partially thereby affected. If the pain is in connection with the spinal column, there will be inability to rise, or at least a very uncertain gait, if the animal still retain the power of rising. If the pain be connected with the urinary or generative organs, there will always be either straining or some characteristic alteration of the nature of the discharges.

It must not be forgotten that the previous history of the patient is very frequently a great aid to diagnosis. Especially is this the case when the animal is known to have been recently in contact with some specific contagious disease, or where disease is already existing in the neighbourhood. Careful inquiry should always be instituted to find out exactly the conditions to which the horse has been recently exposed, and also as to the amount and character of food, water, and exercise. By coupling the history of the animal with the information contained in the columns of the chart, devoted to the causes of disease, a very valuable corroboration can frequently be made of the diagnosis.

CHAPTER III.

Administration of Medicines to the Horse.

It is important that all the drugs prescribed be of good quality, and not inferior to those used for mankind. The structure and functions of the horse are of a similar character to those of man and the higher animals, and the action of medicines is, in many cases, likewise similar. The changes also in the structure and functions which are caused by disease are similar to those of man, and very much the same principles are involved in their treatment. Therefore, it is reprehensible to conclude that inferior, coarser or more impure drugs, will do for a horse. In fact, as the course of some diseases is more rapid in the horse than in man, the highest quality of drugs is necessary, in order to ensure swift action. For example there is an absolute necessity, in order to save life, of a quick and certain action of the purgative drug "aloes" in impaction of the bowels. This disease runs its course to a fatal termination, or to recovery, as the case may be, frequently in twenty-four hours, and, unless the first dose of purgative medicine can be relied upon, a cure is very uncertain. The same is true as to the need of purity of digitalis, which may be useful in pneumonia, broken wind, and heart derangements. Many other instances could be given of similar nature, and it would not be necessary to draw such particular attention to this point, were it not for the prevalent notion among druggists that an inferior quality or strength of a drug will do for a horse.

Too much importance cannot be given to the care which it is necessary to use in giving medicine, not only to prevent choking, or unnecessary excitation of the animal, but also to ensure certainty of action. The horse is notably most sensitive to taste and smell, and nauseous drugs are at times very difficult to administer without cruelty, or causing undue excitation. For this reason, different methods exist. First and most important is the method of giving medicine in the form of a ball or "bolus." This should never exceed one ounce in weight, nor three inches in length, by three-quarter inch in diameter. It should be cylindrical in shape, and soft in consistence—never hard and dry. It should be wrapped in paper, either oiled, or moistened immediately before being given.

(Gelatin capsules, which answer the purpose admirably, can now be purchased.)

Balls are better given by hand, but for those who, from want of practice, or other reason, object to the manual method, a "balling gun," as sold by the instrument makers, may be employed. If the ball is to be given manually, the tongue must be grasped firmly with the left hand, and gently pulled forward, and the ball placed with the tips of the first three fingers of the right hand at the back of the root of the tongue. As the hand is withdrawn from the mouth, the left hand releases the tongue, which carries the ball backward when being withdrawn into the mouth. Hold the head in a natural position with mouth closed, until the ball is seen on the outside of the neck to pass down the gullet. It is always advisable to offer a drink of water after balling, in order to facilitate passage, and prevent it being coughed up.

Occasionally if placed too far back, or if the throat is sore, it will be at once coughed up. If so, do not attempt to force swallowing, but allow it to come away without being broken by the teeth or chewed, and see that it is properly re-wrapped before repeating the administration. If the balling gun be used, the same method must be employed, with the exception that the gun is substituted for the fingers of the right hand. It is necessary to take care to leave the ball just at the back of the root of the tongue, and no further, and away from the molar teeth.

Many nauseous drugs and those requiring a great volume of water in their solution are better given in the form of a ball, especially aloes and its combinations.

In cases of bad sore throat, or swollen glands of the throat, however, it will be found useless to try this form of administration.

The second and perhaps more common method of administering medicine is in liquid form as a draught, or "drench," as it is commonly called. In this method it is best to use either a proper tin drenching bottle, or an ordinary wide-mouthed glass one, such as a soda-water bottle. The horse's head must be raised, either by the left hand held under the lower jaw, or by a rope looped around the

upper jaw, and passed over a beam, or by the "twitch" on the upper nostril, the particular method depending upon the amenability of the animal. When the head is thus secured, a trifle above the level, the medicine should be poured slowly into the cheek of the left side, so that it may run down the side of the molar teeth into the mouth. Do not attempt to pass the neck of the bottle into the mouth past the teeth, and if the least sign of choking should arise, let the head down, quite regardless of spilling the medicine. Obviously it is better to lose the medicine than choke the horse. If the animal does not swallow, gently rub or stroke the neck or tickle the palate, *i.e.*, the roof of the mouth, or the inside of the lips, with the fingers, whereupon the mouth usually opens, and swallowing occurs. If this fails, the tongue may be drawn forward and then released, or a clean sponge may be dipped in cold water, placed in the nostrils, and squeezed so that a little water may trickle down. This last method invariably causes instant swallowing. All other practices intended to evoke swallowing are to be censured. On no account ever give medicine by the nostrils. It is a most cruel and dangerous practice, and causes many deaths from traumatic inflammation of the bronchial tubes and lungs, which may perhaps be put down to the original disease by those who use this barbarous method. In giving drenches do not dilute too much with water, as the risk of choking is thereby much increased. Drenches should not, as a rule, ever exceed one pint in quantity, and rarely is it necessary for them to be over eight fluid ounces.

A third and valuable method of giving medicine, especially during convalescence when the appetite is good, is in the form of powders, mixed with the food or water. Nearly all the neutral salts of sodium, potassium, and iron, can be given this way, and some vegetable tonics, if some flavouring, such as aniseed, be added to them. When the animal will readily take medicine with its food, this plan is far preferable to any other.

A fourth, and sometimes very valuable

method, is by hypodermic injection. This means should be only rarely resorted to, as the risk of abscess from a non-sterilized syringe and the powerful action of the drugs used in this method, make it too dangerous for any but properly qualified practitioners. However, at times, the necessity is great, when rapidity of action is demanded, and the risk must be taken. Always see that the syringe is perfectly cleaned before putting away after use, and, if not made of glass, immersed in boiling water or, if so, in solution of perchloride of mercury for a few minutes before being used.

Injection of medicine into a vein or the trachea can only be performed by experienced veterinarians.

The greatest care, we repeat, should be exercised in the giving of medicine. In the case of disorders involving the brain and nervous system, and in that of young unbroken animals, or those of a highly nervous temperament, it is very easy to destroy all the good effects of the medicine by the mode of its administration, or actually do more harm than good. Patience and sympathy are always needed, and a bad-tempered man should never be allowed within talking distance of a sick horse.

The practice of suspending medicines in oils of various kinds, for example linseed oil, should be severely condemned. The horse has a decided natural objection to oil, and there is no necessity whatever for mixing linseed, or other nauseous oils, with drenches. If oil, as a laxative, is deemed advisable, one or two moderate doses of castor oil may be given for that express object of opening the bowels.

A peculiar form of inflammation of the mucous coat of the bowels often follows the excessive use of linseed oil in cases of abdominal disease, and it is generally objectionable in any quantity for diseases of the lungs or bronchial tubes, and absolutely pernicious in low fevers, such as influenza, distemper and lung fever. This oil should be for the most part excluded from the category of internal medicines.

CHAPTER IV.

Nursing.

Corn, barley, wheat, beans, peas, and all highly nitrogenous food should usually be discontinued during any attack of sickness; but when the appetite is very poor, and remains so for several days, it is permissible to tempt it back with small quantities of almost any kind of food. A handful of fresh malt now and again, oatmeal, linseed gruel, freshly-cut grass, young carrots, or a few heads of green corn will frequently start a horse eating.

When there is total disinclination to drink, a little salt, placed in the mouth, will often have the desired result.

All work and exercise of every description must be at once stopped during sickness, and this is most important to be remembered on the outbreak of epizootic influenza in a stable. Many a horse dies from lung complications following the continuance of work in the early stages of influenza, and many abdominal diseases are seriously aggravated by the common custom of exercising a horse in the early stages of colic. Perfect quiet and freedom to roll around on a good bed of straw or other soft material should be secured as soon as possible, after the first signs of abdominal pain are observed.

The best rule to observe in the matter of exercise during sickness, is to refrain from all unnecessary movement when the temperature or pulse is higher than normal, and whenever there are signs of pain of any description.

During convalescence, exercise may be gradually started, and should be increased daily, before putting the animal to regular work again.

On account of the extreme sensitiveness of the abdominal organs of the horse, it is important to remember that two or three days' rest from work should always follow active purgation.

If possible, a sick horse should be at once removed to a roomy box-stall, with plenty of light and fresh air, wherein the temperature is kept at 60 to 65 degrees Fahrenheit, as nearly as practicable.

The legs and ears should be kept warm, even though it be necessary to rub them

with mustard and water, or with liniment No. 1. After hand-rubbing, the legs should be bandaged with flannel bandages, and the body also blanketed with rugs, if necessary. The higher the temperature of the animal, the more necessary it is to keep the skin in action by extra covering.

When fomentations or poultices are indicated, it must be remembered that they are solely used for the purpose of applying moist heat, and therefore should never be allowed to get cold. When they are discontinued, the parts fomented must be dried, and stimulating liniment or alcohol applied. Do not begin fomentation without an ample supply of hot water.

The main object of bandaging is to exclude the air, and hence bandages should always be accurately applied with consistent pressure, but not enough to stop the circulation. Their efficacy is wonderfully increased by applying a layer of absorbent cotton to the skin before adjusting the bandages.

The use of enemata (clysters) is frequently of great value, and for this purpose the old-fashioned, cumbersome and expensive pumps are not necessary. A tin funnel, shaped like an inverted cone, eight inches in diameter at the top, tapering to one inch at the bottom, to which is attached two feet of one inch pipe at right angles, can be fashioned by any tin-smith; and will serve the purposes required. The end of the clyster-pipe should be smoothed with a lead finish, so as not to injure the rectum.

Enemata of warm water, or warm water and soap, should be judiciously repeated, subsequently to the purgative, in cases of abdominal obstruction; and as a substitute for purgative medicine in other diseases when constipation exists. From one to two gallons of water may be allowed to enter, and, in order to facilitate the process, it is better to place the animal in such a position that the hind quarters are on a higher level than the fore-quarters.

When nutrient enemata of linseed and oatmeal gruel are indicated, in cases of extreme weakness, with inability to eat, or digest good food, remember that only one to two quarts can be retained at one time.

In some few cases of sickness, when artificial support is necessary to maintain a standing posture, slings are used. These can be purchased from the instrument makers, but can be carefully constructed with a framework of wood, built around the horse, the animal being supported by sheets of strong canvas under the body, in front of the chest, and behind the thighs, all nailed securely to the wooden frame.

All points of friction must be well padded.

This section on nursing may be concluded by urging the extreme necessity of securing quietude, cleanliness, fresh air, an equable temperature, and perfect sanitation, together with extreme patience and watchfulness on the part of the attendant.

CHAPTER V.

Surgical Operations.**(a) Blistering and Firing.**

Both these operations are used for the purpose of creating counter irritation of the skin, in order to relieve inflammation of internal structures, and are specially used for diseases of the bones and joints of the legs. The best effects are produced only after ordinary remedies have first been used to reduce as far as possible local inflammation, and in no case should either be used if any external heat of skin exists.

Blisters should never be repeated until the scale of the old blister has come away, and the new hair begun to appear. For twelve hours after blistering, the horse should be secured, so that it cannot bite or scratch the affected part, and the skin, after blistering, should be occasionally dressed with vaseline or some other emollient dressing. Do not blister a heated or inflamed skin. It is as well to give a mild purgative two days before using any blister, except when one is used for an abscess, or to reduce inflammation of any important internal organ, such as in laryngitis or pneumonia.

"Firing" is the act of burning the skin with a heated iron, and special instruments are sold for the purpose. The operation should never be performed except by a veterinarian, under chloroform, and with the greatest care. No operation on the horse is more liable to abuse than that of firing. However, in strictly scientific hands, it is one of the most beneficial for cases of refractory splints, spavins, side-bones, sprained tendons, and curbs. The operation should not be contemplated, unless the owner is prepared to give at least two or three months' rest to the animal, and at least three weeks' preparation should first be given to the leg to be operated upon. These precautions are absolutely necessary to obtain good results.

(b) Setoning.

The operation of setoning is the passage of a piece of tape, four to six inches long, under the skin. It is allowed to remain there for some days or weeks. Constant dressing

keeps open the artificial wound. It is done to produce intense counter-irritation, when blisters would be ineffectual and firing is impracticable, as in obstinate cases of hip-joint disease. It should only be performed by a veterinarian.

(c) Suturing Wounds.

Surgical needles and antiseptic silk and catgut or silver wire are used for this purpose. For ordinary purposes the "interrupted suture" should be performed, that is to say, each stitch should be tied separately. Before suturing, the wound must be carefully cleansed with antiseptic solution and dried, and all destroyed tissue cut away. Be careful to keep out of the wound any dirt, or oil, or liniment of any description, and see that the needle actually penetrates the whole of the skin before drawing through the thread. After the suturing is complete, dust the surface with a mixture of dry boric acid and aristol. Secure the animal until union has taken place, so that there will be the least possible stretching of the sutures.

(d) The Opening of Abscesses.

Be careful to see that distinct fluctuation proves the existence of pus before opening, and when the operation is decided upon, open freely so as to obtain a clear channel. Cut in the general direction as from head to tail, avoiding all transverse incisions. If the abscess is in a dangerous locality, one unfamiliar with the anatomical position of large arteries and veins should never operate. After opening freely, irrigate once or twice a day with a solution of Peroxide of Hydrogen, or other antiseptic solution.

(e) Extraction of Tumours.

All tumours require thorough dissection from out of the surrounding structures, and, if these are in a dangerous position, the operation should only be performed by a

scientific veterinary surgeon. After extraction, thorough cleanliness with antiseptic solution is necessary.

(f) *Bleeding.*

Except in an emergency, bleeding should be left to the qualified veterinary surgeon. At times, however, it is necessary for the attendant to act, and the following rules should be observed. Direct an assistant to hold the head slightly turned to the right. Place a fairly tight loop of rope around the neck towards the chest. The operator, standing on the right side will observe the jugular vein standing out prominently on the neck by the side of, and a little above, the windpipe. Make an incision into the jugular vein about half-way between the jaw and the rope, with the ordinary bleeding lancet, held firmly between the thumb and first finger. Take care not to puncture the further side of the vein. If the vein be properly punctured, blood will flow rapidly in a stream half an inch wide. Collect the blood in a pint measure, and take away from three to six pints, the amount depending on the size and condition of the animal, and the disease it is suffering from. As a rule a 1,000lb. animal in good condition will stand a loss of four pints; but sufficient should be taken away to cause the pulse to become rapid in number, and less in volume. As soon as these effects are perceptible, loose the rope around the neck, and take up the two edges of punctured skin by passing a pin through both of them held tightly together between the fingers. Secure the pin in place by wrapping around it a few strands of soft string, or hair from the animal's tail. After the lapse of about forty-eight hours the pin may be removed. Bleeding may be necessary in some cases of congestion or inflammation of the brain, cerebral apoplexy, and occasionally in acute "founder."

(g) *Passing Urethral Catheters.*

In the male the penis is first drawn and grasped firmly in the left hand, and the catheter, which is a long flexible tube, specially made for the purpose, is passed with the right hand. As it reaches the angle near the rectum, an assistant should be ready to turn the point towards the bladder by gentle pressure just below the anus. When the

instrument has reached the bladder, the stilet inside the catheter can be withdrawn, so that the urine will flow freely. In the female the orifice is on the lower floor of the vagina, a few inches inside, and the operation is much easier than in the male, consisting of a direct passage of the catheter into the bladder.

(h) *Trephining.*

This operation consists in boring a circular hole through the bones of the face into one or other of the nasal cavities, in the case of obstinate nasal gleet, and is performed with the special trephine for the purpose. Before operating, a crucial incision is made into the skin over the prominent nasal swelling characteristic of the disease. The trephine is then placed into actual contact with the bone, and, by a series of circular movements of the hand backwards and forwards, a circular piece of bone is sawn out. The discharge of offensive pus at once follows the opening into the cavity. Constant irrigation, according to the instructions on the chart, must be practised until healing takes place.

(i) *Tracheotomy.*

This operation is the opening of the windpipe to admit of respiration when the larynx is occluded. In severe cases of laryngitis, sometimes in distemper, and occasionally in other diseases this operation is necessary, and sometimes urgently required. About one-third way down the neck, make a two-inch long incision in the skin and through the flesh, at the lowest portion of the neck, at the middle point, that is, one-half way round it; and cut, until the wind-pipe is exposed, from above downward. Then cut direct into the pipe with the knife blade, in a line parallel to the long axis of the body, through one ring. The breathing will at once take place through the opening, which must be kept patent by the insertion of a regular tracheotomy tube.

When the disease making the operation requisite subsides, the tube can be removed, and healing will at once take place, if the wound be kept clean with antiseptic dressings.

For Roarers a silver tube with lumen capable of being more or less occluded can be used; but for this purpose a circular opening into the trachea has to be made by an expert.

(j) Use of the Probang in Choking.

The animal's head must be stretched forward in a straight line from the body, and the operator stand squarely and firmly in front. Carefully pass the probang, well oiled, over the root of the tongue, until the throat is reached, and, as soon as the first natural attempt is made to swallow, push on with slight pressure down the neck until the obstruction is encountered, then use steady and gentle but firm pressure without any jerking, until the obstructing material is passed into the stomach. Withdraw steadily and carefully.

Failing a regular probang, in an emergency, a flexible buggy whip, or a piece of stout hose-pipe may be found useful substitutes.

(1) Operation for Fistulous Withers and Poll-Evil.

This operation is frequently serious, and requires great skill, but when the pus is superficial, and deep-seated structures have

not been involved, a cure can be effected by a free opening of the abscess, making the cut parallel with the long axis of the body, and using afterwards repeated irrigations with a 10 per cent. solution of peroxide of hydrogen, or other antiseptic solution.

(1) Unnerving.*

This operation can only be performed by one thoroughly expert in the knowledge of the anatomy of the leg. It consists of the exposure and excision of a piece of the metacarpal nerve of the leg, in order to destroy sensation in the foot, affected with chronic navicular disease, or incurable ringbone. As the operation does not cure the disease, and frequently causes degeneration of the other healthy structures, it is of doubtful value, and can only be advised for the sake of lessening the suffering of a lame horse.

* Novocain may be used for producing local anaesthesia in unnerving and minor operations generally. It is said to be non-irritant, six times less toxic than cocain, and only one-third as toxic as other substitutes. It is the hydrochloride of para-amino-benzoly-di-ethyl-amino-ethanol.

CHAPTER VI.

Use of Malleine for the Detection of Glanders,
and Prevention of Disease.*(a) Use of Malleine.*

Malleine contains the components of the bacilli of Glanders.

In case of any doubt in the diagnosis of glanders, a hypodermic injection of two cubic centimeters of malleine will determine the question. The temperature of the horse must be taken morning, noon and night, of the day previous to the injection. The Malleine (which in the United States of America can be obtained from the Bureau of Animal Industry at Washington, D.C.), is injected into the neck with a hypodermic syringe. Twelve hours after the injection the temperature must be taken every four hours for twenty hours. If there is a rise of 1.8 degrees Fah. above the average of the day preceding the injection of malleine, the horse is suffering from glanders. If there is no rise, or only a slight one, it may be taken for granted that glanders is not present.

(b) Prevention of Disease.

The columns of the chart devoted to "Causes of Disease" are intended to imply the necessity of the adoption of the corresponding sanitary measures required for the prevention of the respective diseases. It may be asserted that 75 per cent. of the ills of the horse are due to errors in regard to diet, work, stable-management, and general hygienic arrangements.

Many excellent treatises have been written on the sanitation and stable-management of horses, and it is not the province of this work to say more in this connection than that the consumption of food should be gauged by the amount of physical work required of the animal; that in all cases it should be as clean and free from mould, dirt, sand, or other impurity as possible, and should be given at regular intervals; that drinking water should not be contaminated with drainage, or deleterious matter of any kind, nor given immediately after exhausting work, particularly during exposure to cold winds; that the stable should be dry, light, well-ventilated, thoroughly drained, and kept at as even a temperature as it is possible to secure. The first signs of sickness, especially during the presence of epizootics, should be at once attended to, and

work stopped on the first symptoms of loss of appetite, elevation of temperature, or general unthriftiness. During the spring and fall months, the regular administration of Powder No. 16 once a day in food three times a week, will prevent many diseases of the excretory organs; and it may be regularly given at any time of the year, during the prevalence of any epizootic. The powder will either prevent or considerably lessen the severity of an attack of influenza, pink-eye, or distemper, and it is an excellent Condition Powder. After a period of rest, or after a serious change in climate, a horse should be gradually accustomed to the maximum amount of work required, and it is a good plan to commence any great change of diet, or general condition, with one dose of purgative medicine, followed by Powder No. 16, once a day. Medicine No. 22, once or twice a day, will prevent or quickly arrest the common acclimatisation fever so frequent after a great change of climate. Disinfection of stables should in all cases be periodically made, and daily during the prevalence of infectious disease. The simplest and most effectual disinfectant is chlorinated lime in solution (one pound of lime to two gallons of water). Freely sprinkle with a garden watering-can over the floor, and in the drainage gutter of the stable. A five per cent. solution of chloride of zinc is more expensive, but has the advantage of being inodorous. The various preparations of Solution of Tar are also useful. Fumigation with burning pine-tar or sulphur or creolin vapour, is advisable in the case of the existence of any contagious disease. After an outbreak of glanders or anthrax, it is necessary to remove and burn all wood-work, which is likely to have been in contact with the diseased animal or its discharges.

In an actual outbreak of anthrax, where deaths have occurred, those animals which have been subjected to the contagion may be successfully vaccinated with anthrax vaccine, as a preventive; but considerable caution should be exercised in its use for fear of introducing the disease, where it did not previously exist, and it should only be done under the best expert advice given after a thorough investigation.

CHAPTER VII.

Prescriptions, Drugs, Instruments, and Appliances.

We now proceed to give successively:—

A.—Prescriptions.

B.—List of Prescriptions advised to be kept made up in cases where a first-class drug-store is not conveniently situated close at hand, for instance, on stock-farms far distant from a town.

C.—List of Drugs likewise needful in such a case, *i.e.*, where a good chemist's services are not obtainable at a time of emergency. In each of these lists the quantities mentioned are suitable for a stud of fifty horses, and can of course be increased or lessened in amount according to the special needs of each particular farm.

D.—List of Surgical Instruments and Appliances needful for simple cases where operative procedure is required.

A.—Prescriptions.

No. 1.—Camphor Liniment.

R.—Camphor 1 oz.
 Strong Sol. of Ammonia ... ½ oz.
 Alcohol, sufficient to make one pint.

No. 2.—Strong Camphor Liniment.

R.—Camphor 1 oz.
 Strong Sol. of Ammonia ... 1 oz.
 Alcohol, sufficient to make one pint.

No. 3.—White Embrocation.

R.—Thoroughly shake 8 oz. Turpentine with 4 well-beaten Eggs. Add gradually, shaking during the process, 4 oz. Acetic Acid, and 4 oz. of Solution of Acetate of Lead (Goulard's extract of Lead), and 2 quarts of Water.

Useful for swellings, bruises, and inflammatory deposits of all kinds. Apply without bandage, unless a mild blistering action is required, in which case a bandage may be used.

No. 4.—Iodine Liniment.

R.—Tincture of Iodine 3 oz.
 Iodide of Potassium..... 1 oz.
 Glycerine 2 oz.
 Water, sufficient to make one pint.

Useful as an absorbent application for swellings of all kinds. Saturate outer surface of affected parts, apply a layer of cotton-wool, and over this a tight bandage. If any blistering action should occur, discontinue for a time, and apply vaseline.

No. 5.—Anodyne Liniment.

R.—Camphor 1 oz.
 Chloroform ½ oz.
 Sulphuric Ether ½ oz.
 Tincture of Opium ½ oz.
 Tincture of Aconite ½ oz.
 Strong Sol. of Ammonia ... ½ oz.
 Glycerine, sufficient to make 4 oz.

A very strong application for the relief of local pain. Apply without bandage, unless intense action is desired.

No. 6.—A Cooling Lead Lotion.

R.—Sol. of Acetate of Lead.
 (Goulard's Extract)... 2 oz.
 Tincture of Arnica 1 oz.
 Tincture of Aconite 1 oz.
 Glycerine 3 oz.
 Water, sufficient to make one pint.

A lotion for the relief of local inflammation. Apply with cold wet bandage kept saturated with the lotion.

No. 7.—Blistering Ointment.

R.—Powdered Cantharides ... 4 drams.
 Oil of Turpentine 1 dram.
 Oil of Origanum 1 dram.
 Lard 4 oz.

Do not repeat this application until scale has come off skin. Dress after application with vaseline, or ointment No. 10.

No. 8.—Strong Blistering Ointment.

R.—Powdered Cantharides... 4 drams.
 Biniodide of Mercury ... 4 drams.
 Glycerine 4 drams.
 Lard 4 oz.

Same after-treatment as with No. 7.

No. 9.—Mercurial Blistering Ointment.

R.—Biniiodide of Mercury ... 4 drams.
Olive Oil 4 drams.
Lard 3½ oz.

Same after-treatment as with No. 7.

No. 10.—Antiseptic Ointment.

R.—Powdered Boric Acid... 4 drams.
Creolin 1½ drams.
Lanoline 1 oz.
Benzoated Lard 3 oz.

Useful for open sores of every description.

No. 11.—Hoof Ointment.

R.—Pine Tar 2 parts.
Castor Oil 1 part.
Lard 3 parts.

Heat together until well mixed. Apply to hoofs every night, and before exposure to cold wet conditions of work.

No. 12.—Astringent Ointment.

R.—Acetate of Lead Powdered 4 drams.
Oxide of Zinc 2 drams.
Creosote Pure 1 dram.
Lanoline 1 oz.
Benzoated Lard 3 oz.

Useful for chronic sores, cracked heels, "grease" or "scratches," "eczema," and "ulcers."

No. 13.—Antiseptic Solution.

R.—Carbolic Acid Pure..... 1 oz.
Glycerine Pure 2 oz.

Mix and add water sufficient to make one pint. For external use.

No. 14.—Antiseptic Solution.

R.—Boric Acid 1 oz.
Glycerine 2 oz.
Boiling Water 1 pint.

For external and internal use.

*No. 15.—Antiseptic Solution.**POISON.*

R.—Bichloride of Mercury 8 grains.
Alcohol sufficient to dissolve.
Water 2 pints.

Or 1 Antiseptic Tablet (as supplied by chemists for such purpose), dissolved in two pints of water.

Useful as a Dressing for wounds of all kinds,

No. 16.—Alkaline Powder.

R.—Powdered Nitrate of Potassium 1 part.
Powdered Bicarbonate of
Potassium 1 part.
Powdered Bicarbonate of Sodium 2 parts.
Powdered Hyposulphite of
Sodium 2 parts.
Powdered Gentian Root 1 part.
Powdered Aniseed 1 part.

Dose.....Tablespoonful in food.

Useful as a general condition powder, and diuretic.

No. 17.—Tonic Powders.

R.—Powdered Sulphate of Iron. 2 parts.
Powdered Sulphate of Copper 1 part.
Powdered Gentian Root 6 parts.
Powdered Aniseed 4 parts.

Dose.....Tablespoonful in food.

No. 18.—Iodine Powders.

R.—Powdered Iodide of Potassium 1 part.
Powdered Bicarbonate of
Potassium 2 parts.
Powdered Gentian Root 3 parts.
Powdered Aniseed 3 parts.

Dose.....Tablespoonful in food.

No. 19.—Tetanus Powders.

R.—Powdered Bromide of
Potassium 1 oz.
Powdered Dry Tobacco 4 oz.

Dose.....Tablespoonful in gruel.

In the hands of the skilled Veterinarian the Antitetanus Serum is the most successful treatment; but the above powder is useful in some cases.

No. 20.—Iodide of Iron Powders.

R.—Powdered Sulphate of Iron.. 1 part.
Powdered Iodide of Potassium. 2 parts.
Powdered Gentian Root 3 parts.
Powdered Aniseed 3 parts.

Dose.....Tablespoonful in food.

No. 21.—Inflammatory Medicine.

R.—Bicarbonate of Potassium... 1 oz.
Salicylate of Sodium 4 drams.
Tinct. of Colchicum 4 drams.
Tinct. of Aconite 10 drops.
Spirit of Chloroform 1 oz.
Water, sufficient to make 8 fl. oz.

Dose.—4 fl. oz. with an equal quantity of water. (Two doses.)

No. 22.—*Tonic Fever Medicine.*

R.—Nitrate of Potassium 1 oz.
 Chlorate of Potassium ½ oz.
 Spirit of Nitrous Ether 4 oz.
 Tinct. of Aconite 20 drops.
 Fluid Extract of Gentian 1 oz.
 Water sufficient to make ... 1 pint.
 Dose.—One-fourth part, or four ounces.
 Four Doses.

No. 23.—*Purgative Medicine.*

R.—Aloin 2 drams.
 Ginger 2 drams.
 Oil of Peppermint 5 drops.
 Make into a ball with soft-soap or molasses.
 One Dose.

No. 24.—*Purgative Medicine.*

R.—Barbadoes Aloes 5 drams.
 Ginger 1 dram.
 Oil of Peppermint..... 5 drops.
 Make into a ball with soft soap.
 One Dose.

No. 25.—*Purgative Medicine.*

R.—Boil until dissolved, either of the above
 XXIII. or XXIV. in one pint of water,
 with ½ oz. Bicarbonate of Sodium, and give
 as a drench, if necessary. (One dose.)

No. 26.—*Anodyne Laxative Medicine.*

R.—Castor Oil 1 pint.
 Sulphuric Ether 1 oz.
 Spirit of Nitrous Ether 1 oz.
 Oil of Peppermint 10 drops.
 Dose.—for Foal, 2 oz.; for Yearling,
 4 oz. to 8 oz.; for Full Aged Horse, 10 oz.
 to 18 oz.

No. 27.—*Purgative Medicine.*

R.—Calomel 2 drams.
 Aloin 2 drams.
 Powdered Opium 2 drams.
 Common Flour 10 drams.
 Make into a paste with water, and divide
 into four balls.
 Dose.—One every four hours, and only
 four doses to be given.

No. 28.—*Anodyne Medicine.*

(*General Colic Medicine.*)

Useful in the first stages of all abdominal
 diseases, associated with pain, and also as a
 general stimulant. Keep in cool place, and
 away from open light or fire.

R.—Sulphuric Ether 4 oz.
 Spirit of Nitrous Ether 4 oz.
 Tincture of Opium 2 oz.
 Spirit of Chloroform 2 oz.
 Tinct. Aconite 15 drops.
 Oil of Peppermint 15 drops.
 Oil of Cloves 15 drops.
 Syrup sufficient to make... 1 pint.

Dose, 4 oz., to be repeated frequently,
 according to pain. (Four doses will suffice.)

No. 29.—*Anodyne Fever Medicine.*

(Keep away from light or fire.)

R.—Bicarbonate of Potassium.. 8 drams.
 Bromide of Potassium 2 drams.
 Sulphuric Ether 2 oz.
 Water 6 oz.
 Dose, 4 oz. (Give two doses.)

No. 30.—*Diarrhœa Medicine.*

Shake well before using.

R.—Carbonate of Bismuth..... 2 oz.
 Bicarbonate of Sodium ... 2 oz.
 Prepared Chalk 2 oz.
 Powdered Catechu 1 oz.
 Powdered Ginger 1 oz.
 Spirit of Nitrous Ether ... 2 oz.
 Tinct. of Opium 2 oz.
 Oil of Peppermint ½ dram.
 Oil of Aniseed ½ dram.
 Water sufficient to make... 2 pints.

Dose.—For Foals, 1 tablespoonful; for
 Yearlings, 1 oz.; for Full Aged Horse, 2
 to 4 ozs.

To be given every one, two, or three hours,
 according to severity of attack, until active
 purging ceases.

No. 31.—*Tonic Medicine.*

R.—Diluted Nitro-Hydro-
 chloric Acid 1 oz.
 Fluid Extract of Gentian 1 oz.
 Tinct. of Nux Vomica ... 4 drams.
 Spirit of Chloroform 2 oz.
 Simple Syrup, sufficient to
 make 8 oz.

Dose.—Two ozs. in a half-pint of cold
 water, and only four doses to be given.

No. 32.—Tonic Medicine.

R.—Powdered Ginger	1 oz.
Powdered Gentian	1 oz.
Powdered Nux Vomica ...	2 drams.
Aromatic Spirit of Ammonia	2 oz.
Spirit of Nitrous Ether ...	2 oz.
Oil of Cloves	20 drops.
Water, sufficient to make..	1 pint.

Dose, 4 ozs. (Four doses suffice.)

No. 33.—Fever Medicine.

R.—Salicylate of Sodium	1 oz.
Bromide of Potassium ...	$\frac{1}{2}$ oz.
Bicarbonate of Potassium.	$\frac{1}{2}$ oz.
Tinct. of Digitalis	2 oz.
Tinct. of Aconite	20 drops.
Spirit of Chloroform	2 oz.
Water sufficient to make..	1 pint.

Dose, 4 ozs. (Four doses suffice.)

No. 34.—Stimulant Medicine.

R.—Aromatic Spirit of Ammonia	2 oz.
Concentrated Solution of Acetate of Ammonia..	2 oz.
Spirit of Nitrous Ether ...	2 oz.
Water sufficient to make..	1 pint.

Dose, 4 ozs. (Four doses suffice.)

No. 35.—Electuary.

For Cough, Sore Throat, Laryngitis, Dis-temper, when there is difficulty in swallow- ing, or when it is dangerous to give medicine any other way.

R.—Powdered Aniseed	3 oz.
Powdered Nitrate of Potassium	2 oz.
Powdered Chlorate of Potassium	1 oz.
Powdered Camphor	1 oz.
Powdered Opium	2 drams.
Powdered Ipecacuanha ...	2 drams.
Extract of Belladonna ...	1 dram.
Powdered Digitalis	1 dram.
Oil of Creosote, Pure ...	30 drops.

Molasses of Syrup sufficient to make into a paste.

Insert one tablespoonful at back of tongue, three or four times a day.

No. 36.—Inhaling Mixture.

R.—Carbolic Acid, Pure	2 oz.
Sulphuric Ether	2 oz.
Chloroform	2 oz.
Comp. Tincture of Benzoin	1 oz.
Oil of Eucalyptus	1 oz.

To one tablespoonful of this mixture add boiling water, and hold under animal's nostrils, so that it can breathe the vaporized ingredients. Repeat every half-hour or hour according to symptoms, so long as breathing is bad.

No. 37.—External Dressing for Canker.

R.—Powdered Sulphate of Zinc	2 oz.
Powdered Sulphate of Copper	1 oz.
Nitric Acid	4 drams.
Pine Tar	1 lb.

Mix the acids and tar carefully together, add gradually the sulphates of copper and zinc. (Use a capacious vessel while com- pounding.)

No. 38.—Special Antiseptic Ointment.

For obstinate sores, ulcers, saddle-galls, etc.

R.—Boric Acid	4 parts.
Aristol	2 parts.
Oil of Eucalyptus	1 part.
Castor Oil	2 parts.
White Wax	2 parts.

Melt the Castor Oil and Wax together. Then stir in the Eucalyptus. Mix the Boric Acid with the Aristol. Add sufficient of the latter to make a firm paste, mixing well.

No. 39.—Paste for Reduction of Inflammation.

R.—Fuller's Earth	1 lb.
Boric Acid	1 oz.
Glycerine, sufficient to make a soft paste.	

Useful in the reduction of all local inflam- mations.

Apply half-inch thick over affected part; over the paste place cotton wool one inch thick, and secure with tight bandage. Renew once every 24 hours.

Unless otherwise indicated, the doses, as given in the above prescriptions, are calcula- ted for a full-aged horse weighing 1,000 lbs., and should be reduced or increased in amount according to age, size, and condition, in each other case.

B.—List of medicines and drugs and other requisites advisable to be kept on hand for a stud of 50 horses:—

P.p. No. III.—White Embrocation	2 quarts.
„ No. IV.—Iodine Liniment ...	2 pints.
„ No. V.—Anodyne Liniment..	1 pint.
„ No. VI.—Blistering Ointment	4 oz.
„ No. VII.—Strong Bg. „	4 oz.
„ No. IX.—Mercurial Blister ...	4 oz.
„ No. X.—Antiseptic Ointment	8 oz.
„ No. XI.—Hoof Ointment ...	7 lbs.
„ No. XVI.—Alkaline Powders	7 lbs.
„ No. XVII.—Tonic Powders..	2 lbs.
„ No. XXI.—Inflammation Medicine	1 quart.
„ No. XXII.—Tonic Fever Medicine	2 quarts.
„ No. XXIII.—Purgative Medicine	6 doses.
„ No. XXIV.—Purgative Medicine	6 doses.
„ No. XXVI.—Laxative Medicine	2 pints.
„ No. XXVII.—Purgative Medicine	16 doses.
„ No. XXVIII.—Anodyne Medicine	1 gallon.
„ No. XXX Diarrhœa Medicine	$\frac{1}{2}$ gallon.
„ No. XXXI.—Tonic Medicine	1 quart.
„ No. XXXII.—Tonic „	1 quart.
„ No. XXXIII.—Fever „	1 quart.
„ No. XXXV.—Electuary	2 lbs.
„ No. XXXVIII.—Antiseptic Ointment	1 lb.
„ No. XXXIX.—Paste	2 lbs.

when required for making up the remaining prescriptions.

Camphor in glass stoppered bottle or jar	2 lbs.
Strong Solution of Ammonia	1 lb.
Alcohol	4 pints.
Goulard's Extract of Lead ...	2 pints.
Tincture of Arnica	1 pint.
Tincture of Aconite	1 pint.
Glycerine	8 lbs.
Acetate of Lead (powdered)..	1 lb.
Sulphate of Zinc	$\frac{1}{2}$ lb.
Pure Creosote	2 oz.
Lanoline	4 oz.
Benzoated Lard	2 lbs.
Carbolic Acid (pure).....	1 lb.
Boric Acid	1 lb.
Bichloride of Mercury	1 oz.
Antiseptic Tablets.....	2 bottles.
Iodide of Potassium	1 lb.
Bicarbonate of Potassium.....	4 lbs.
Bromide of Potassium	1 lb.
Gentian Root (powdered)	2 lbs.
Aniseed (powdered)	2 lbs.
Sulphate of Iron (Powdered)..	1 lb.
Sulphuric Ether	2 lbs.
Aromatic Spirit of Ammonia..	1 pint.
Concentrated Sol. of Acetate of Ammonium	1 pint.
Spirit of Nitrous Ether	1 pint.
Chloroform	1 pint.
Oil of Eucalyptus	1 pint.
Novocain, the best local Anæsthetic	4 oz.

While travelling with horses, the following prescriptions, hereinbefore given, will be found most useful to have in stock. Nos. 1, 3, 13, 16, 21, 22, 26, 28, 30, 32, 33, 34, 35 and 39, and during short journeys those can be cut down to Nos. 1, 16, 22, 26, 28, 33, 35 and 39.

In addition to the above prescriptions, the following drugs should be kept ready to use,

A pair of scales with apothecary's weights to one pound.

Three graduated glass measures: 1 oz., 4 oz., 1 pint.

One pestle and mortar of 8 inch diameter at the top.

One porcelain square for mixing; and at least one spatula.

*List of Surgical Instruments and Appliances,**Necessary for Ordinary and Simple Operations.*

- | | |
|--|---|
| 1 Doz. Assorted Surgical Needles. | 2 Lancets, full size. |
| 3 Packets Assorted Surgical Silk Thread. | 1 Bleeding Lancet. |
| 1 Bottle of Catgut Ligatures. | 1 Setoning Needle, and tape. |
| 1 Reel Medium-sized Silver Thread. | 1 Trepine, $\frac{3}{4}$ -inch diameter. |
| 1 lb. Absorbent Cotton. | 1 Plated Tracheotomy Tube. |
| 3 Rolls Surgical Linen Bandage, $\frac{1}{4}$ inches wide, and $\frac{1}{4}$ ft. long. | 1 Male Catheter. |
| 1 Drawing Knife. | 1 Female Catheter. |
| 3 Ordinary Dissecting Knives. | 1 Choking Probang. |
| 1 Abscess Knife. | 3 Firing Irons. |
| 1 Dissecting Forceps. | 2 Puncture Firing Irons. |
| 6 Artery Forceps. | 1 Tooth Rasp. |
| 1 Pair Surgical Scissors, curved and blunt-pointed. | 2 Hypodermic Syringes. |
| | 2 Clinical Thermometers. |
| | Bandages, Rolls of Lint and Cotton-wool, both plain and antiseptic. |
- Shackles for Casting, and Chloroform Caps for giving Chloroform or A. C. E. Mixture; but these are only to be used by the veterinarian.

CHARTS.

DISEASES OF BRAIN

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
BAD SANITATION. BADLY REGULATED FOOD AND WORK.			INFLAMMATION OF BRAIN (MAD STAGGERS).
EXPOSURE TO EXTREMES OF HEAT AND COLD. TUMORS OR ABSCESSSES IN BRAIN.			CONGESTION OF BRAIN (MEGRIMS: SUNSTROKE).
INJURIES.	EXCITABLE MOVEMENTS, WITH LOSS OF SENSE, OR POWER OF PERFECT LOCOMOTION. THE NORMAL CONDITION OF THE PUPILS IS SOMETIMES ALTERED; AS ALSO IS THEIR REACTION TO LIGHT.	IN EARLY STAGES, FREE AND COPIOUS BLEEDING FROM THE JUGULAR VEIN IN ALL ACUTE CASES OF BRAIN DISEASE, FOLLOWED BY HOT FOMENTATION TO HEAD, AND FOUR DOSES OF PURGATIVE MEDICINE XXVII. IN SECOND STAGES ICE OR COLD WATER APPLICATIONS TO HEAD AND TONIC STIMULANT MEDICINE XXXII. THREE TIMES A DAY. IN SPINAL DISEASE DO NOT BLEED. APPLY COLD APPLICATIONS TO SPINE, FOLLOWED BY BLISTER VII. TO LOIN AND POLL, AND MEDICINE XXXII.	CEREBRAL APOPLEXY.
ANIMAL, VEGETABLE, AND MINERAL POISONS.			CHOREA (THE ONLY MANIFESTATION OF THIS DISEASE WE NEED SPEAK OF HERE IS STRINGHALT).
CHRONIC DISEASES OF THE HEART OR BLOOD VESSELS. A SEQUEL OF OTHER DISEASES.			INFLAMMATION OF SPINAL CORD.
ATMOSPHERIC CONDITIONS HEREDITY.			CEREBRO-SPINAL MENINGITIS.

AND NERVOUS SYSTEM.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Direct injury to brain. Alteration in quality of blood supply to brain from overfeeding or presence of poisonous elements.	Violent movements. Convulsions and delirium. Pupils in early stages contracted, later dilated. Loss of sense. No response to restraint. Constipation. High temperature. Rapid pulse.	Bleed from jugular vein until the pulse shows marked softening. Give four doses of Medicine XXVII., one every four hours. Apply hot cloths to head frequently. Give four drams bromide of potash in water three times a day. Also twenty drops of tincture of belladonna, and five drops of tincture of aconite every three hours. If acute symptoms abate, use Medicine XVIII. In convalescence Medicine XXXII.
Mechanical interference with normal blood supply to the brain. Tumors. Disease of blood vessels. Extreme heat.	Attacks of vertigo, staggering and falling, Convulsive movement of limbs. Eye staring. Cold skin and extremities. Either rapid recovery or coma and death. Pulse slow. Temperature normal in migrains, but rises as a rule to a great height in sunstroke.	Remove any mechanical obstructions causing congestion. Apply cold water on head. If horse be not quickly relieved, bleed from jugular vein, and give tincture of aconite, 10 drop doses, every hour until consciousness returns. When congestion is the result of heat or sun stroke, do not bleed, but use Medicine XXXIV. Apply friction and mustard in water to limbs to restore circulation. In convalescence use Ton. XVIII.
Degeneration of blood vessels of brain, and excessive blood supply. Excitement and exposure to extremes of heat or cold.	Sudden loss of sensation and motion. Coma and stertorous breathing. Temperature and pulse normal. Symptoms of congestion persistently exaggerated.	Keep animal quiet. In these cases do not bleed. Give two drams of bromide of potassium dissolved in one pint of water every two hours. Blister the poll with Ointment No. VIII. If acute symptoms should abate, give two drams of iodide of potash in water daily. In convalescence give Medicine No. XXXI.
Direct pressure on nerve or imperfect blood supply to nerve, or to motor centre.	Insufficient control of muscles of hind leg. Characteristic jerking of limb towards the body on movement.	Treatment has been found of little good. In early stage one dram of iodide of iron and one half a dram of powdered nux vomica in food once a day may be beneficial.
Exhaustion, exposure, injury, and blood poisoning.	Rise in temperature followed by convulsive movements of limbs, and total or partial paralysis. High temperature and normal quality of urine distinguish this disease from azoturia.	Ice applications to spine. One dram fluid-extract of belladonna every few hours until pupil of eye is dilated. Then give two drams each of bromide and iodide of potash every four hours. In great pain give as required four doses of Anodyne Medicine XXVIII. In convalescence give Tonic Medicine XX.
Badly ventilated stables. Tuberculosis, influenza, or other disease. Vegetable poisons in food.	Partial or total inability to swallow, coupled with staggering gait. High fever. Partial paralysis, ending frequently in coma, delirium, and death.	Treatment is hopeless when there is total inability to swallow. In mild cases give four doses of Medicine XXVII. Follow with one dram of tincture of belladonna, alternated every three hours with ten drops tincture of aconite for twenty-four hours. Apply Blister VII. to throat and spine. Change position of patient twice a day. Use the catheter, if necessary. When acute symptoms abate, give Tonic Stimulant XXXII. Support with slings, if necessary. During convalescence, give Tonic XX.

PLATE II.

DISEASES OF

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
INJURIES.			CONJUNCTIVITIS (INFLAMMATION OF CONJUNCTIVA).
BAD SANITATION.			OPHTHALMIA (INFLAMMATION OF INTERNAL EYE).
SWAMPY PASTURES.	IMPERFECT SIGHT, EVIDENCED BY SHYING. ALTERATION OF THE STRUCTURE OF THE EYE, BETTER SEEN WITH THE AID OF ARTIFICIAL LIGHT IN DARK STABLE.	LOCAL FOMENTATION WITH HOT INFUSION OF POPPY HEADS IN ACUTE STAGES, FOLLOWED BY COLD APPLICATIONS IN CHRONIC STAGES. INTERNALLY GIVE POWDER XVI. TWICE A DAY. EXCLUDE LIGHT AS FAR AS POSSIBLE.	OPACITY OF CORNEA.
INNUTRITIOUS FOOD.			CATARACTS.
HEREDITY.			FILARIA OCULI (WORM IN EYE).
			AMAUROSIS (GLASS EYE)

THE EYE.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Blows or other injuries. Dust or other irritants. Exposure, or as result of influenza.	Intense redness of lining membrane, with weeping, swollen lids, general whiteness of the external coat of the eye. Vision painful, but not destroyed.	Bathe eyes frequently with warm infusion of poppy-heads, and apply with camel hair brush, or clean feather, three times a day, a few drops of solution of adrenalin chloride, one part to one thousand of water. Give daily in food, two drams nitrate of potash.
Swampy malarial land. Insanitary stables. Severe injuries. Heredity.	Whole structure of eye attacked. Extreme sensitiveness to light. Complete opacity, with red streaks across the eye. Attacks recurrent, each leaving more opacity.	Give daily in food two ounces phosphate of soda and 10 grains calomel, with 30 grains bicarbonate of soda. Bathe eyes frequently with hot water, or infusion of poppy-heads, and apply freely at intervals a lotion of sulphate of zinc 5 grains, acetate of lead 5 grains, to each ounce of water. Apply with a camel hair brush three times a day to the eye itself a solution of sulphate of atropine (4 grains to each ounce of water).
After effects of conjunctivitis or of low fevers or injuries.	Partial or complete cloudiness of outer coat of eye. Vision incomplete.	Apply carefully with camel hair brush once daily to the cloudiness on the eye a solution of nitrate of silver 2 grains, in distilled water one ounce.
Ophthalmia.	General cloudiness or a single speck in the lens of eye. Vision imperfect or blindness total, depending upon the extent of the disease.	Only relieved by removal of lens, which leaves imperfect vision, and therefore the operation is valueless in the horse. Sometimes the growth of cataracts can be checked by alternate daily doses of calomel 30 grains, and iodide of potash 60 grains.
Presence of the Parasite, <i>Filaria Papillosa</i> , in the eye.	A floating thread seen in the water of the anterior chamber of the eye. Imperfect vision, with final obscurity.	Only relieved by removal through an incision at the upper end of the cornea of the eye.
Injury to optic nerve, tumor in brain, excessive weakness from any cause.	Glassy appearance of eyes. No apparent change of structures. Pupils dilated, and do not contract on exposure to light. Total blindness.	When due to complete paralysis of the optic nerve, no treatment is of avail. If only partial or temporary paralysis exists, advise complete rest and half a dram of powdered nux vomica and two ounces of powdered phosphate of soda once daily.

PLATE III.

DISEASES OF

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
IMPROPER FOOD AND FEEDING.	INCREASE OF SALIVA, MORE OR LESS DIFFICULTY IN MASTICATION AND SWALLOWING. GENERAL UNTHRIFTINESS.	WASH MOUTH FREQUENTLY WITH SOLUTION MADE BY DISSOLVING 1oz. ALUM AND 1oz. BORIC ACID IN ONE PINT OF BOILING WATER. GIVE 1 OUNCE POWDER No. XVI. ONCE OR TWICE DAILY IN FOOD. IF THERE BE MUCH FEVER, GIVE ONE DOSE OF MEDICINE No. XXVI., FOLLOWED BY TWO DOSES OF No. XXI., AT INTERVALS.	DISORDERS OF THE TEETH.
HARD WATER.			INFLAMMATION OF MOUTH, GUMS, TONGUE.
POISONS.			PHARYNGITIS. INFLAMMATION OF THROAT.
INJURIES.			PARALYSIS OF THROAT.
			CHOKING.

MOUTH AND THROAT.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Deformity. Impurities in food. Sequel of Debilitating Disease.	Pain on pressure to outside of mouth along the course of the molar teeth. Quidding of food. Lacerated mouth or tongue. Sharp edges of molar teeth. Uneven projection of teeth. Foul breath.	File down the sharp edge of outer side of upper and inner edge of lower molars. Cut off and file down any portions of projecting teeth which interfere with perfect apposition. Extract decayed teeth. Wash mouth with Lotion No. XIV.
Mouldy food. Foxtail grass. Irregularity in feeding. Teething.	Redness of lining membrane and heat of mouth. More or less general soreness. Unnatural flow of saliva.	No burning or cutting for so-called "Lampas" is necessary. Wash out mouth two or three times a day with solution of one ounce boric acid and one ounce of alum to one quart of water, and give daily in drinking water two drams of chlorate of potash. Linseed and bran with other food.
Injuries. Damp. Foul stable. Imperfect ventilation. Exposure to cold and wet. Catarrhal affections.	Difficulty and disinclination to swallow. Pain on pressure outside throat, with some swelling. Stiffness of muscles around throat. Cough.	Rub outside of throat with liniment No. 2. Feed on soft diet. Give twice daily in food four drams of hyposulphite of soda and Tonic Medicine XXII.
Various.	Total inability to swallow. No pain or swelling. Gradual emaciation.	Blister throat with Oint. No. VII. Use Medicine No. XXXV. three times a day. Wash mouth frequently with solution of borax. Thin linseed and oatmeal gruel should always be supplied.
Improper feeding. Bolting of the food.	Great distress. Frequent cough. Excessive flow of saliva. Flatulence. Visible evidence of the obstruction sometimes exists in the neck. Frequent arching of the neck, and attempt to vomit, with occasional shrieking. Ejection of water, or water and food, through nostrils after attempt to swallow.	First attempt removal of obstruction by hand and by rubbing neck with oil. If this fails, pass the probang into the stomach. After relief, feed on loose diet for a few days, and give one pint of olive oil.

PLATE IV.

DISEASES OF

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
INDIGESTION.			NETTLE RASH (URTICARIA).
DISEASE OF OTHER ORGANS.			MUD FEVER (ERYTHEMA).
SPECIFIC BLOOD POISON.			WARTS.
PARASITES.	LOCAL SWELLING, ERUPTION OF SPOTS. SORES, WITH MORE OR LESS IRRITATION.	APPLICATION OF LOTION No. VI., OR OINTMENTS Nos. X. AND XII., WITH POWDER No. XVI. ONCE A DAY IN FOOD.	ECZEMA.
MINERAL POISONS.			PSORIASIS.
IMPURE WATER.			SCABIES, ITCH OR MANGE.
LOCAL BLISTERING OR SCALDING.			

THE SKIN.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Acidity of Blood. Indigestion.	Sudden local swellings in spots in any part of the body, especially the head, neck, or thighs, sometimes causing very extensive and serious swelling of head. Intense itching.	If swelling be very extensive, bleed freely from jugular vein. Give four doses of Medicine No. XXVII., and Medicine No. XXI. every two hours for six doses, followed by Powders No. XVI. twice a day.
Effect of irritating mud during exposure to wet weather.	Severe inflammation of skin of legs, and under surface of body, producing extreme sensitiveness and heat, followed by scaling of outer skin and loss of hair.	Bathe affected parts five minutes with hot water, five minutes with cold water, and five minutes with tepid water. Dry thoroughly with soft cloth, and apply Lotion No. VI. When dry, apply Oint. X., and bandage legs. Repeat dressing once, or if very bad, twice a day. Give Powders No. XVI. twice a day.
Probably due to some alteration of the blood.	Round fibrous tumors of varying size immediately under or in the skin, appearing in any part of the body, usually detached from the underlying structures.	Can usually be removed with thumb and finger, but occasionally require the knife. After removal dress with solution No. XIII. If very minute in size, dress twice daily with a mixture of acetic acid one part, water three parts. Internally, a dose of sulphate of magnesium may be given in the drinking water daily.
Injudicious feeding. May be due to a parasitic growth.	Small vesicles or blebs, which afterwards form scabs, most commonly on the neck, shoulders, sides, and insides of thighs.	Commence with a dose of 3 or 4 drams of aloes, feed for three days on bran mashes and warm water, resting during the time. Locally the Compound Ointment of Petroleum may be applied. Give Prescription No. XVI. once daily.
Over-feeding. Heredity.	Scaly condition of skin behind knees (Mallenders) and of skin on hocks (Sallenders).	Laxative and restricted diet. Moderate cathartic dose. Remove scales with warm water or poultice, and then apply ointment composed of half-dram chrysophanic acid to each ounce benzoated lard. Give internally 2 drams of Fowler's Solution, with 6 drachms of bicarbonate of potassium, twice daily in the drinking water for a fortnight or three weeks.
Presence in skin of the mange insect, viz., the <i>Dermatodectes equi</i> , the <i>Sarcoptes equi</i> , or the <i>Symbiotes equi</i> .	Constant rubbing and scratching. Loss of hair. Skin inflamed and sore in affected parts. Presence of parasite.	A thorough application to all affected parts of compound sulphur oint., or sulphur oint. eight parts, and creoline one part, daily. Wash skin every three days with carbolic acid soap.

DISEASES OF THE

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
IRREGULAR OR EXCESSIVE FEEDING.		IN ALL CASES OF ABDOMINAL PAIN GIVE AT ONCE, IN ONE HALF-PINT OF COLD WATER, FOUR OUNCES OF ANODYNE MEDICINE XXVIII., AND REPEAT EVERY ONE-HALF OR WHOLE HOUR, ACCORDING TO SEVERITY OF SYMPTOMS, UNTIL PAIN CEASES.	IMPACTION OF STOMACH AND FLATULENCE.
INDIGESTIBLE OR UNSUITABLE FOOD.		APPLY TO BODY OR THROW OVER THE BODY, WHEN DOWN, BLANKETS STEEPED IN NEARLY BOILING WATER AND WELL WRUNG OUT.	INFLAMMATION OF STOMACH: GASTRITIS.
FOOD MIXED WITH DIRT, MOULD, OR POISON.	ABDOMINAL PAIN OF MORE OR LESS SEVERITY, EVIDENCED BY LYING DOWN AND QUICKLY GETTING UP AGAIN, REPEATED FREQUENTLY, ROLLING OVER, KICKING AT THE BODY, LOOKING AT FLANKS, SOMETIMES WITH SHORT PERIODS OF EASE.	FAILING HOT WATER, APPLY ONE POUND OF MUSTARD TO BODY IN FORM OF PASTE, OR APPLY FREELY LINIMENT No. 1. HAND-RUB LEGS AND EARS.	SPASMODIC COLIC.
OVERLOADING STOMACH WHEN EXHAUSTED.		GIVE ONE DOSE OF PURGATIVE MEDICINE No. XXVI. AND FREQUENT ENEMATA OF WARM WATER.	FLATULENT COLIC.
OVERWORKING SOON AFTER EATING.	PULSE RAPID DURING PAROXYSMS. TEMPERATURE GENERALLY NORMAL.	IF FLATULENCE IS PRESENT, GIVE ALSO ONE OUNCE OF BICARBONATE OF SODA IN WARM WATER EVERY HOUR.	INFLAMMATION OF BOWELS (ENTERITIS) AND ENTERIC APOPLEXY.
CHILL DURING DIGESTION.		TAKE AWAY ALL FOOD DURING THE ATTACK.	IMPACTION OF LARGE INTESTINE.
CHILL AFTER OVERWORK.		ALLOW FREE ACCESS TO WATER. GIVE LOOSE DIET DURING RECOVERY.	MECHANICAL STOPPAGE IN BOWELS.

DIGESTIVE ORGANS.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Acute indigestion, over-feeding, or injudicious feeding.	Very acute pain. Body much distended. No intervals of ease. Highly distressed countenance. Attempts to vomit. Pulse continuously rapid, small, and weak. Temp. normal.	To general treatment add Purgative Medicine No. XXVII., one dose every two hours for four doses. Also give two drams of sulpho-carbolate of soda in four ounces of water every hour for four hours.
Irritant poisons. Cold or exposure. Over-feeding with wheat or barley.	Very acute pain with no distention. No intervals of ease. Constant pawing of fore legs. Injected eyes. Cold sweats. Pulse rapid, wiry and distinct at first, but failing gradually. Temp. slightly raised.	If due to arsenical poisoning, see treatment for same. If from other causes, give one ounce sub-nitrate of bismuth with Anodyne Medicine No. XXVIII., and follow general treatment. Diet should consist of oatmeal gruel.
Large quantity of cold water when exhausted. Indigestible food. Overwork. Irregular work.	Very acute pain with no distention. Intervals of complete ease. No injection of eyes. Pulse rapid, but strong and full during pain. Normal during intervals of ease. Temp. normal.	In very severe cases add one ounce of sulphuric ether and one-half dram chloroform to each dose of anodyne medicine, or inject hypodermically two grains hydrochloride of morphine and repeat if necessary in one hour.
Indigestion. Overwork during digestion. Bad food.	Acute pain with distention. Intervals of partial ease. Temp. normal.	Add two drams sulpho-carbolate of soda to each dose of anodyne medicine, and, if case is very severe, use hypodermic injection of morphine, as above.
Stoppage, injuries, poisons. Sudden chill in plethoric animals.	Very acute pain with active and increasing intensity. Highly injected eyes. Cold extremities. Pulse rapid, and full at start, gradually becoming thready and indistinct. Temp. slightly raised.	Inject hypodermically one grain of hydrochloride of morphine once every hour until severity of pain subsides, if general treatment fails. During convalescence give two ounces daily of phosphate of soda in food.
Over-feeding. Bad hay. Lack of water. Chronic inaction of the liver.	Moderate pain, with intervals of ease, slowly increasing in intensity. Pulse at first slow, gradually rising. Temp. very slightly raised. Body tense, but not flatulent in early stages.	Repeated enemata of warm water. If no relief is obtained in twelve hours with general treatment, give four doses of Medicine No. XXVII., and substitute Anodyne Medicine No. XXIX.
Twisted bowels due to colic. Calculus in intestine. Hernia and intussusception of bowel.	Moderate pain at first, increasing regularly every hour. No intervals of ease. Sitting on haunches, and assuming other peculiar attitudes. Cold sweats and tremors. Pulse uniformly increasing every hour until very rapid and indistinct. Temp. rising slowly.	No treatment will be of any use except surgical operation, which is impracticable in the horse. Hypodermic injection of morphine may relieve pain, and in cases of less gravity cathartics, coupled with enemata, may sometimes succeed.

DISEASES OF THE

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
<p>IRREGULAR OR EXCESSIVE FEEDING.</p> <p>INDIGESTIBLE OR UNSUITABLE FOOD.</p>		<p>IN ALL CASES OF ABDOMINAL PAIN GIVE AT ONCE, IN ONE HALF-PINT OF COLD WATER, FOUR OUNCES OF ANODYNE MEDICINE XXVIII., AND REPEAT EVERY ONE-HALF OR WHOLE HOUR, ACCORDING TO SEVERITY OF SYMPTOMS, UNTIL PAIN CEASES.</p>	<p>PERITONITIS.</p>
<p>FOOD MIXED WITH DIRT, MOULD, OR POISON.</p> <p>OVERLOADING STOMACH WHEN EXHAUSTED.</p>	<p>ABDOMINAL PAIN OF MORE OR LESS SEVERITY, EVIDENCED BY LYING DOWN AND QUICKLY GETTING UP AGAIN, REPEATED FREQUENTLY, ROLLING OVER, KICKING AT THE BODY, LOOKING AT FLANKS, SOMETIMES WITH SHORT PERIODS OF EASE.</p>	<p>APPLY TO BODY OR THROW OVER THE BODY, WHEN DOWN, BLANKETS STEEPED IN NEARLY BOILING WATER AND WELL WRUNG OUT.</p> <p>FAILING HOT WATER, APPLY ONE POUND OF MUSTARD TO BODY IN FORM OF PASTE, OR APPLY FREELY LINIMENT No. 1. HAND-RUB LEGS AND EARS.</p>	<p>DIARRHŒA AND DYSENTERY.</p>
<p>OVERWORKING SOON AFTER EATING.</p> <p>CHILL DURING DIGESTION.</p>	<p>PULSE RAPID DURING PAROXYSMS. TEMPERATURE GENERALLY NORMAL.</p>	<p>GIVE ONE DOSE OF PURGATIVE MEDICINE No. XXVI. AND FREQUENT ENEMATA OF WARM WATER.</p> <p>IF FLATULENCE IS PRESENT, GIVE ALSO ONE OUNCE OF BICARBONATE OF SODA IN WARM WATER EVERY HOUR.</p>	<p>INFLAMMATION OF LIVER.</p>
<p>CHILL AFTER OVERWORK.</p>		<p>TAKE AWAY ALL FOOD DURING THE ATTACK.</p> <p>ALLOW FREE ACCESS TO WATER. GIVE LOOSE DIET DURING RECOVERY.</p>	<p>CONGESTION OF LIVER (JAUNDICE), THOUGH JAUNDICE MAY BE ASSOCIATED WITH OTHER CONDITIONS ALSO.</p>

DIGESTIVE ORGANS.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
<p>Injuries. Rupture of stomach, intestines, diaphragm, or liver. Exposure to cold and wet.</p>	<p>Very acute pain. No intervals of ease. Highly injected eyes. Very cold extremities. When due to rupture, pallid mouth and cold sweats. Pulse hard and wiry at first, rapidly becoming feeble and indistinct. Temp. sometimes subnormal.</p>	<p>Give four doses of Medicine No. XXVII., and hypodermic injection of morphine twice, followed by four ounces of Anodyne Medicine No. XXIX. every four hours, until the urgent symptoms are relieved.</p>
<p>Cold or catarrh of lining membrane of intestinal tract. Poison. Bad food.</p>	<p>Superpurgation, followed by mucous and bloody discharges. Moderate pain at intervals. Cold legs and ears. Pulse hard, small, and slightly increased. Temp. normal.</p>	<p>At first give one dose of Medicine No. XXVI., followed with Medicine No. XXX., according to directions in prescription. Ipecacuanha is very useful in some forms of dysentery.</p>
<p>Over-feeding. Irregular exercise. Chills.</p>	<p>Slight pain. Lameness of right shoulder. Orange and red injection of eyes. Pain on pressure to right side. Pulse full, hard, strong, and rapid. Temp. raised. Loss of appetite.</p>	<p>Blister right side with Ointment No. VII. Give two drams of calomel and two drams of aloin, and 20 drops of oil of peppermint, made into a ball. Follow with four ounces of phosphate of soda in one pint of hot water, twice daily for three days. Afterwards give Tonic Medicine No. XXXI. twice a day for two days.</p>
<p>Biliary calculi. Catarrh of bile ducts. Over-feeding.</p>	<p>No pain. Dull listless appearance. Extreme yellowness of eyes and mouth. Pulse full, soft, and slightly raised. Temp. normal.</p>	<p>Four ounces of phosphate of soda in one pint of hot water, twice a day until natural colour is restored. Afterwards the Tonic Medicine No. XXXI. twice daily for two days. Apply mustard to right side.</p>

DISEASES OF THE RESPIRATORY

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
CHECK TO ACTION OF THE SKIN OR KIDNEYS.		HAND-RUB LEGS AND EARS, AND WHEN WARM APPLY DRY FLANNEL BANDAGES TO LEGS.	NASAL GLEET OR CHRONIC CATARRH.
OVER-HEATED, OVER-CROWDED, BADLY-VENTILATED, DAMP, STABLES.		IF NECESSARY TO PRODUCE WARMTH, APPLY LINIMENT No. J. TO LEGS OR EARS. APPLY TO THROAT OR CHEST, AS THE CASE MAY BE, MUSTARD MADE INTO THICK PASTE WITH VINEGAR. PLACE PATIENT IN WELL VENTILATED DRY BOX-STALL AT A TEMPERATURE OF 65 DEG. FAHRENHEIT, OR AS NEAR AS PRACTICABLE.	LARYNGITIS.
TOO SUDDEN COOLING AFTER SEVERE WORK, ESPECIALLY IN THE SPRING AND FALL MONTHS.	PERSISTENTLY INCREASED FREQUENCY AND ALTERED CHARACTER OF BREATHING. INCREASED PULSE. HIGH TEMPERATURE. INJECTED MEMBRANES OF EYES AND NOSTRILS. PERSISTENT STANDING POSTURE.	ALLOW LIBERAL SUPPLY OF DRINKING WATER.	BRONCHITIS.
SPECIFIC GERMS.		REGULATE BOWELS WITH LAXATIVE DIET, AND IF NECESSARY WITH ENEMATA.	CONGESTION OF LUNGS.
		IN FIRST STAGES UNTIL TEMPERATURE AND BREATHING ARE LOWERED, GIVE FEVER MEDICINE No. XXXIII. EVERY FOUR HOURS.	PNEUMONIA.
		WHEN IMPROVEMENT OCCURS. SUBSTITUTE FEVER MEDICINE No. XXII. DURING CONVALESCENCE GIVE TONIC MEDICINE No. XXXII. ONCE DAILY.	PLEURISY.

AND CIRCULATORY SYSTEMS.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Neglected cold. Exposure. Injury to face or to molar teeth.	Long continued offensive discharge from one nostril. Swelling on one side of face under orbit. Dulness on percussion of affected side of face. General unthrifty appearance. Glands under the jaw swollen and slightly painful. No ulceration of nostrils, as occurs in glanders.	The operation of Trephining is sometimes necessary. Afterwards irrigate nostrils freely with a 10 per cent. solution of peroxide of hydrogen. Give Tonic Powder No. XVII. once daily in food.
Catarrh, influenza, distemper. Ammoniacal effluvia from over-heated and unclean stables.	Harsh, difficult breathing. Pronounced rattling sound heard on placing ear to throat, becoming a loud roaring noise in later stages. Glands of throat sometimes swollen. Muscles of throat tense. In last stages breathing is intensely difficult, and unless relieved ends in suffocation. Painful throat, cough. High temp. and pulse.	Apply to throat Blister No. VIII. Hold under the nose for five minutes every hour, boiling water poured on Inhaling Mixture No. XXXVI. Apply on tongue three times a day, Mixture No. XXXV. When breathing permits, give Medicine No. XXXIII. twice a day. In convalescence Tonic No. XX. As a last resource, if necessary, perform operation of tracheotomy.
Damp, badly-ventilated stables. Influenza, and other fevers.	Accelerated breathing. Loose rattling in wind-pipe, more perceptible in chest. Deep sore cough, becoming loose as disease advances. No pain on pressure to sides. Temp. and pulse higher than normal; but may subside in chronic bronchitis.	Apply $\frac{3}{4}$ lb. mustard paste to front of chest. Give medicine as in general treatment, with addition of one dram of ipecacuanha with each dose in first stage only.
Over-exertion when not in condition. Excessive feeding.	Greatly increased breathing, with no noise in throat or chest. Short, hard, painful cough at intervals. High temperature and pulse. On placing ear to sides the ordinary breathing murmur is not well heard over affected lung, but largely increased over the healthy part.	Apply mustard paste to sides of chest. Medicine as in general treatment.
Exposure in bad weather after over-exertion. Work during attacks of fever. Infection.	All symptoms of congestion exaggerated. Temp. and pulse higher. Difficulty of breathing great. Intense injection of eyes and nostrils, gradually changing from red to purple gray colour. Short, hard, dry cough. Distressed countenance. Cold legs.	Apply to one side of chest Blister No. VII. and mustard to other side. Restore circulation in legs and ears by rubbing and warmth. To general medicine in first stages add one-half dram powdered digitalis and half-grain of strychnine to each of first four doses. If symptoms are very severe, give also 5 minims nitro-glycerine every two hours for four doses. In some plethoric horses at an early stage moderate bleeding may be useful.
Injuries to chest. Overwork. Rheumatism. Exposure after clipping.	Short, painful breathing. Pain on pressure to sides, with characteristic grunting on sudden movement. Dry, rasping friction sound heard on placing ear to sides. An appearance of general stiffness due to sharp pain during breathing. Quick pulse. High temp.	Apply Liniment No. 2 to the sound or least affected side, and mustard to the worse side, and use general treatment, viz., in the acute stages febrifuges, whilst in the later stages paracentesis thoracis may be necessary.

DISEASES OF THE RESPIRATORY

PLATE VI.—continued.

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
CHECK TO ACTION OF THE SKIN OR KIDNEYS.		HAND-RUB LEGS AND EARS, AND WHEN WARM APPLY DRY FLANNEL BANDAGES TO LEGS.	INFLAMMATION OF HEART (ENDOCARDITIS).
OVER-HEATED, OVER-CROWDED, BADLY-VENTILATED, DAMP, STABLES.	PERSISTENTLY INCREASED FREQUENCY AND ALTERED CHARACTER OF BREATHING. INCREASED PULSE. HIGH TEMPERATURE. INJECTED MEMBRANES OF EYES AND NOSTRILS. PERSISTENT STANDING POSTURE.	IF NECESSARY TO PRODUCE WARMTH, APPLY LINIMENT No. I. TO LEGS OR EARS. APPLY TO THROAT OR CHEST, AS THE CASE MAY BE, MUSTARD MADE INTO THICK PASTE WITH VINEGAR. PLACE PATIENT IN WELL VENTILATED DRY BOX-STALL AT A TEMPERATURE OF 65 DEG. FAHRENHEIT, OR AS NEAR AS PRACTICABLE.	DISTEMPER OR STRANGLES.
TOO SUDDEN COOLING AFTER SEVERE WORK, ESPECIALLY IN THE SPRING AND FALL MONTHS.		ALLOW LIBERAL SUPPLY OF DRINKING WATER.	INFLUENZA (PINK-EYE, BILIOUS FEVER).
SPECIFIC GERMS.		REGULATE BOWELS WITH LAXATIVE DIET, AND IF NECESSARY WITH ENEMATA.	LUNG FEVER.
		IN FIRST STAGES UNTIL TEMPERATURE AND BREATHING ARE LOWERED, GIVE FEVER MEDICINE No. XXXIII. EVERY FOUR HOURS.	CHRONIC COUGH.
		WHEN IMPROVEMENT OCCURS, SUBSTITUTE FEVER MEDICINE No. XXII. DURING CONVALESCENCE GIVE TONIC MEDICINE No. XXXII. ONCE DAILY.	ROARING.
			ASTHMA AND BROKEN WIND.

AND CIRCULATORY SYSTEMS.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Constant and repeated over-exertion. Rheumatism.	Similar to mild case of pleurisy, with absence of grunt and rasping sound in chest. On listening to the heart a turbulent riotous action is heard. Pulse full and rapid. Anxious countenance.	Use Blister No. VII. over region of heart. For medicines use those for the primary disease (<i>vide</i> rheumatism).
Infection.	High temperature. Hard painful swellings under jaws and sometimes in other glands of the body. Breathing more or less obstructed by abscess formation. Swellings gradually get softer and more painful to the touch, until pus breaks out, or is withdrawn by lancing or aspiration.	Add one ounce of chlorate of potash to each two gallons of drinking water. Give twice daily in food one ounce of hyposulphite of soda. Apply to swollen glands Blister No. VII. Lance abscesses when ripe, and cleanse thoroughly with Antiseptic No. X. Give Medicine No. XXII. twice daily, or Medicine No. XXXV. if swallowing is difficult.
Infection.	Persistent high temperature. Congestion of any part or whole of respiratory tract, and of biliary ducts. Discharge from eyes, nostrils, or throat. Loose, persistent cough. Cold extremities. Swelling of throat, eyelids, or legs. Leadен colour of eyes or nostrils, and occasionally yellow.	Apply Liniment No. II. to throat. Give Medicine No. XXXII. three times first day. Thereafter give Medicine No. XXII. two or three times a day. Fumigate stables with burning pine tar. If membranes are yellow, give two ounces phosphate of soda once daily in food. Regulate bowels with one or two doses of Medicine No. XXVII.
Infection, aggravated by insanitary conditions.	A combination of sub-acute symptoms of pleurisy and pneumonia, with rapid, but small and weak, pulse. Temp. always high. Rapid short breathing. Leadен or orange colour of eyes or nose. Symptoms gradually and slowly appear after previous high temperature.	Treat same as pneumonia, with addition of one dram of quinine once a day. In convalescence give Tonic No. XX. twice a day.
Result of previous disease of organs of respiration. Over-heated stables.	Persistent, hard, dry cough, with a general unthriftiness. Absence of any acute disease, but often following disease of lung, throat, or stomach.	Tablespoonful of Mixture No. XXXV. every evening, and two ounces of Tonic No. XXXI. every morning. Apply liniment No. I. to throat.
Due to pressure on nerve supplying muscles of throat. Heredity.	A noisy difficulty of breathing on severe exertion, varying from the characteristic whistle to a roaring or grunting noise. A slowly progressive disease due to paralysis of the muscles of one side of the larynx, in animal otherwise healthy.	No cure. Symptoms may be relieved by operation of tracheotomy. In early stages disease may be retarded by Tonic No. XX. and Mixture No. XXXV. once daily.
Chronic indigestion. Musty hay. Bad grain. Heredity.	Peculiar rales on listening to sides. Short wheezy cough. Laboured breathing on exertion. Symptoms much aggravated by full stomach or indigestion. Intervals of great improvement.	Relief may be obtained by daily doses of one-half dram digitalis and one dram sulphate of copper in food, and by feeding with small quantities of concentrated food at frequent intervals. Reduce quantity of hay and water.

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
<p>CONTAGION BY INOCULATION OR EXPOSURE TO CONTAGIOUS DISEASES.</p> <p>BLOOD POISONING BY FAILURE TO ELIMINATE DISEASED SECRETIONS OR EXCRETIONS.</p>	<p>CONTINUED HIGH TEMPERATURE. INCREASED PULSE. CHANGES IN CONSTITUENTS OF BLOOD, RESULTING IN SWELLINGS, ULCERATIONS. BLOOD SPOTS IN VARIOUS PARTS OF THE BODY, AND EFFUSIONS OF BLOOD IN IMPORTANT ORGANS, CAUSING SPECIFIC SYMPTOMS.</p>	<p>IN GLANDERS, FARCY, ANTHRAX, AND RABIES, NO TREATMENT IS PERMISSIBLE; BUT THE RULES FOR THESE ARE AS FOLLOW:—</p> <p>WHILE UNDER SUSPICION STRICT ISOLATION; AND EARLY DESTRUCTION WHEN DISEASE IS DETERMINED. THOROUGH DISINFECTION OF THE CARCASSES.</p> <p>IN OTHER BLOOD DISEASES GIVE FIRST FEVER MEDICINE No. XXI. THREE TIMES A DAY, AND AS SOON AS DISEASE IS DEFINED, USE SPECIAL TREATMENT.</p>	<p>GLANDERS AND FARCY.</p> <p>ANTHRAX. (WOOLSORTERS' DISEASE.)</p> <p>PURPURA AND SCARLET FEVER.</p> <p>INFLAMMATORY OEDEMA (WEED OR LMYPHANGITIS).</p> <p>RHEUMATISM (ARTICULAR AND MUSCULAR). WHEN THERE ARE MARKED FEBRILE SYMPTOMS, IT IS CALLED RHEUMATIC FEVER.</p> <p>TETANUS OR LOCK-JAW.</p> <p>RABIES.</p>

INFECTIOUS DISEASES.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Contagion only from other affected animal.	Hard swelling of gland under jaw, which does not break and is more or less adherent to side of jaw. Specific Chancre or ulcer on lining membrane of nostril. Glutinous discharge from nose which has no odour. Unthrifty condition. Ulceration of glands of leg and body in farcy.	If there be any doubt, test the animal with "malleine." When disease is determined, at once destroy the animal, and thoroughly disinfect stable, taking out and burning all wood-work which has been in contact with any of the discharges. Iodine is said to be useful; but treatment is not allowable.
Contagion only from infected soil, or water, or food, or other animal infected with the disease.	Sudden death after few hours of sickness. Effusion of blood in various parts of body. Enlargement of spleen. High temperature during and before sickness, with symptoms of general inflammation. Presence in the blood of the anthrax bacilli.	Burn all carcasses affected with this disease. As a preventive, vaccinate others, which may be exposed to same conditions, with anthrax vaccine. Remove all stock from infected locality, and then dress pastures well with lime when practicable to do so.
Resulting blood poison from influenza or distemper, or mal-hygiene.	Extensive swelling of head, and hind legs, with persistent high temperature and weak pulse. Blood spots inside nostrils with sanguineous discharge.	In first stages, and until swelling subsides, give four times a day Medicine No. XXII. Afterwards give Tonic Powders No. XVII. twice a day. Remove to well-ventilated box-stall, and tempt appetite with any kind of food.
Over - feeding. Insufficient or irregular work.	Extensive swelling of one hind leg with no blood spots in nostrils. Severe pain and lameness. Strong rapid pulse. High temperature in early stages only.	Give first one dose of Medicine No. XXIV. or No. XXV., followed by Fever Medicine No. XXI. every four hours. Constantly apply hot fomentations, and Liniment No. III. to swelling afterwards. When acute stage is over, give Powders No. XVIII. twice a day. Loose diet. No grain food.
Impairment of digestive functions. Exposure. Heredity. Though not proved to be a specific fever, rheumatism may nevertheless frequently be of this nature.	Severe pain and swelling of affected parts. High temperature. Rapid pulse. Swelling suddenly shifts from one joint or limb to another. No blood effusion.	Medicine No. XXI. every four hours in first stage. Medicine No. XVIII. in second stage, twice a day. Use Liniment No. III. to swellings. Soft diet in first stage.
Infection of wound with the tetanus germs. Occurs as a result of injury or general infection.	Stiffness and spasms all over the body. Pain increased on excitement, and occurs in paroxysms. White of eye protrudes over eye-ball on elevation of head. In later stages inability to open mouth. Temperature only slightly raised. Pulse rapid on excitement.	Strictest quiet. Dark box-stall. Feed on oatmeal or bean meal gruel exclusively, in which mix one of Powders No. XIX., every four hours. Poultice seat of injury with linseed containing one-half ounce of carbolic acid.
Contagion only by inoculation of rabific poison, as a result of bite or other direct method of infection.	Symptoms of acute inflammation of brain, coupled with apparently sensible attempts to use natural methods of attack on any living object. Profuse salivation. Great difficulty in swallowing.	No treatment is feasible, as immediate destruction, on determination of the disease, is advocated.

DISEASES OF THE URINARY

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
DISORDERED LIVER, HEART, BRAIN, OR NERVOUS SYSTEM.			INFLAMMATION OF BLADDER (CYSTITIS).
COLD, INJURIES.			INFLAMMATION OF KIDNEYS (NEPHRITIS).
IRREGULARITY OF FOOD OR WORK.	PAIN AS IN DISEASES OF DIGESTIVE SYSTEM, BUT WITH ALTERATION IN CHARACTER OF THE NATURAL EXCRETIONS OF THE URINARY OR GENERATIVE ORGANS. PAIN USUALLY ASSO- CIATED WITH STRAIN- ING. PULSE USUALLY QUICK.	HOT WATER FOMENTA- TIONS TO LOINS. IN EARLY STAGES TWO OR THREE DOSES OF MEDI- CINE No. XXVIII., FOL- LOWED BY SPECIAL TREATMENT, AS SOON AS THE SPECIAL DISEASE IS DETERMINED.	STONE IN BLADDER.
BAD FOOD.			
IMPURE WATER.			
POISONS.			AZOTURIA.
MALFORMATION.			
			DIABETES (MELLITUS).

AND GENERATIVE ORGANS.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Sudden exposure to cold or wet. Drugs, <i>e.g.</i> , turpentine, cantharides, &c., which act on kidneys. Stone in bladder. Retention of urine.	Repeated efforts to urinate, resulting in discharge of small quantities of urine, altered in colour and always with signs of pain persisting after the discharge, evidenced by straining or groaning. Urine contains excessive mucus, sometimes blood or pus cells.	Removal of cause. Irrigate bladder with one dram of borax, in one quart of warm water, twice daily. If pain is severe, add one ounce of aqueous extract of opium. Fomentation to loins and application of mustard. Give one ounce of bicarbonate of sodium three times daily. Linseed, bran, and green food. Give, when the horse is convalescent, Powder No. XVIII. twice daily; or, if no irritability be left, No. XVII. for a few days.
Fungous hay or oats. Excessive use of drugs. Acrid poisons. Disease of liver. Exposure. Over-work. Check to action of skin.	Stiffness and arching of back. Straddling gait. Groaning on lying down. Colicky pains. Urine has high colour, and may be bloody. Presence of albumen in urine and microscopical casts of linings of tubes of kidney. Swelling of legs, and under the chest and body.	One pint castor oil, followed by three ounces sulphate of soda once daily. One dram ipecac, half-dram digitalis, and one dram bromide of potash, three times daily. Hot fomentation and mustard to loins. Linseed and bran food. Perfect rest. In convalescence Tonic No. XVII. twice daily, or Powder No. XVIII. for a few days if there is still irritability.
Excess of insoluble constituents in urine, partly owing to imperfect action of kidneys. Mucus, pus, or blood secreted by kidney or bladder.	Sudden attacks of pain, quickly subsiding. Intermittent passing of urine with incontinence, and frequent dribbling. Bad unthrifty condition. Stone can often be felt by passing hand into the rectum.	Removal by surgical operation. In very early stages continued doses of twenty grains of urotropine, twice daily, will often cause natural solution, and passage of stone. It is best given in ball form, or in the drinking water, for several weeks.
Presence in blood of excess of nitrogenous elements, due to high feeding and spells of total idleness in stable.	Sudden apparent paralysis of hind-quarters on working after one or two days in stable. Inability to rise. Profuse sweats. Great pain. Delirium in paroxysms. Highly injected eyes. Rapid pulse. Dark brown and sometimes black urine.	Sometimes fatal in twelve to thirty-six hours. Two drams iodide and two drams bromide of potash every two hours for first twenty-four hours. Hot wet blankets to body; mustard to loins. Follow with two drams nitrate of potash and one dram salicylate of soda every four hours for two days. Unlimited drinking water. In convalescence Tonic No. XVII.
Disorder of liver or brain. Poisons.	Profuse excretion of urine with ardent thirst. No pain. Rapid loss of flesh and condition. Costive bowels. Presence in urine of sugar. Urine is pale in colour, and has high sp. gr. In advanced stage dropsy of limbs and body.	If possible turn out in green pasture. Or if practicable put on an exclusive milk diet for a time, with two ounces of phosphate of soda once daily. As improvement occurs, give Powder No. XX. twice daily, in food.

DISEASES OF THE URINARY

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
DISORDERED LIVER, HEART, BRAIN, OR NER- VOUS SYSTEM.			DIABETES (INSIPIDUS).
COLD, INJURIES.			INFLAMMATION OF TESTICLES (ORCHITIS).
IRREGULARITY OF FOOD OR WORK.	PAIN AS IN DISEASES OF DIGESTIVE SYSTEM, BUT WITH ALTERATION IN CHARACTER OF THE NATURAL EXCRETIONS OF THE URINARY OR GENERATIVE ORGANS.	HOT WATER FOMENTA- TIONS TO LOINS. IN EARLY STAGES TWO OR THREE DOSES OF MEDI- CINE No. XXVIII., FOL- LOWED BY SPECIAL TREATMENT, AS SOON AS THE SPECIAL DISEASE IS DETERMINED.	DIFFICULT PARTURITION.
BAD FOOD.	PAIN USUALLY ASSO- CIATED WITH STRAIN- ING. PULSE USUALLY QUICK.		
IMPURE WATER.			INFLAMMATION OF WOMB (METRITIS).
POISONS.			
MALFORMATION.			INFLAMMATION OF UDDER.

AND GENERATIVE ORGANS.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Any agent which stimulates the kidneys. Some drugs, new oats, badly cured, mouldy, or unduly heated hay, impure water.	Profuse flow of urine of low density, containing neither sugar nor albumen. Great thirst. Loss of strength.	Good sound food. Boiled flaxseed in water. One dram iodide of iron and half-ounce gentian root, twice daily. If case is obstinate, add 10 drops of pure creosote, dissolved in one ounce of glycerine and six ounces of water once daily.
Undue excitation, hot weather. Stimulating food. Injuries, inflammation of adjacent organs. Stimulating drugs.	Swelling, heat, and extreme tenderness locally. Stiffness or straddling gait. Continued pain. Increased pulse and breathing.	Perfect rest. Suspensory bandage. Local application of acetate of lead two ounces, fluid extract of belladonna one ounce, tincture of opium two ounces, glycerine three ounces, water two quarts. Keep in contact with absorbent cotton. Give internally two drams bromide of potash twice daily, and two ounces of phosphate of soda once daily.
Malformation of fœtus or organs of dam. Injuries and premature labour.	Inability to deliver offspring. Upon examination the fœtus will be found to be in one of various unnatural positions, or there will be some malformation, <i>e.g.</i> , of fœtus, womb, or vagina.	Delivery must be effected after restoring the natural position of fœtus, if it be possible. Irrigate womb with a solution of one antiseptic tablet to two quarts of water. Internally occasional doses of Medicine No. XXVIII. while pain exists.
Injuries during parturition. Exposure to cold or wet. Irritative effects of decomposition of discharges.	Shivering fit. Small rapid pulse. High temperature. Increased breathing. Stiffness. Uneasy movements of hind limbs. Discharge of liquid, red or yellow in colour, especially after difficult parturition.	Irrigate freely with warm water, made antiseptic as above. Continue until water comes away clear. Remove by hand any decomposing membranes. Hot fomentation to body. Two ounces Medicine No. XXVIII. every four hours with one dram salicylate of sodium during acute stage.
Engorgement before parturition, especially in hot weather. Injury. Septic poisoning during prevalence of epizootics.	Tense, hard, hot swelling of the gland. Pain on pressure. High temperature and increased pulse and breathing. Straddling gait. Frequent swelling of hind leg.	Eight ounces of sulphate of sodium, half-ounce tincture of opium, one ounce of nitre in one pint of water; follow with one dram bromide and one dram of iodide of potassium and one dram of salicylate of sodium, three times daily as long as acute symptoms last. In second stage give Powder No. XVI. twice daily. Constantly foment, and rub with camphorated oil.

POISONS AND

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
<p>IMPURITIES IN FOOD OR WATER.</p>	<p>THE GENERAL SYMPTOMS OF ACUTE MINERAL POISONING ARE EXTREME AND PERSISTENT PAIN, WITH PURGING; HIGHLY INJECTED MEMBRANES, AND COLLAPSE. THOSE OF VEGETABLE POISONING ARE PAIN WITH FLATULENCE AND BRAIN SYMPTOMS, ASSOCIATED, IN STRYCHNINE POISONING, WITH VIOLENT CONTRACTIONS OF THE MUSCLES OF THE BODY, SIMULATING TETANUS. THE GENERAL SYMPTOMS OF PARASITIC INFECTION ARE UNTHRIFTINESS, LOSS OF HAIR, IRRITATION OF SKIN, AND EMACIATION, UNACCOMPANIED BY ORGANIC DISEASE.</p>		<p>ARSENIC AND OTHER IRRITANT POISONS.</p>
			<p>POISONOUS HERBS AND PLANTS.</p>
<p>UNDRAINED OR MARSHY PASTURE.</p>			<p>LARGE ROUND AND SMALL THREADWORMS.</p>
<p>IGNORANT USE OF POISONOUS DRUGS.</p>		<p>SPECIAL TREATMENT MUST BE FOLLOWED; BUT IN CONVALESCENCE USE TONIC POWDERS No. XVII.</p>	<p>TAPEWORMS.</p>
			<p>BOTS.</p>
			<p>SCABIES, ITCH OR MANGE.</p>
			<p>RINGWORM.</p>
			<p>LICE.</p>

PARASITES.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Accidental, injudicious, or malicious administration.	Intense continuous abdominal pain, with thirst. Rapid, thready pulse. Cold sweats. Excessive purging. Vivid red eyelids and nostrils. But very little relief after medicine. In non-fatal doses, emaciation and loss of hair.	Repeated doses of one ounce hydrated peroxide of iron every two hours. Four ounces of Anodyne Medicine No. XXVIII. every two hours during acute stage. Hot fomentations to body. Supply linseed gruel freely. During convalescence Tonic Powders XVII.
Pasturing in early spring, when healthy food grasses are backward.	Intense pain. Cold sweats, with bloating, and rapidly fatal result, if relief is not quickly obtained. Distinguished from mineral poisoning by flatulence and dilated pupil of eye.	Repeated doses of two ounces bicarbonate of soda and four drams of aromatic spirit of ammonia in one pint of water every half hour. When acute symptoms abate, give one pint of castor oil. In convalescence Tonic Powders No. XVII.
Large round worm, four to twelve inches long, in the small intestines. Small round worm in large intestines and in rectum.	Poor condition. Rubbing of tail or mane. Hidebound. Depraved appetite. Licking walls. Itching rectum, and presence of dry white or yellow substance around the anus. Presence of eggs of parasite in manure and also of parasite itself, or portions of it.	Thirty grains of santonine once each morning before feeding for three mornings. On third morning give one dose of Medicine No. XXIII. or No. XXV. Loose diet for three days thereafter.
Three species of tape worm found in intestines, occasionally 20 to 30 feet long.	Some abdominal pain or rather irritation may be manifested, and the mature segments are passed now and again in the fæces.	One dram each of fluid extract of malefern and area nut, and 20 grains of santonine once a day for three days. On third day also add one pint castor oil.
The larvæ of the gadfly found attached to walls of stomach.	Presence in excreta of the mature parasites, which always come away from off the stomach wall when fully grown, and lay eggs on the skin of the lower part of the neck, shoulders, and inner parts of the forelegs, especially round the knees, parts easily licked by the horse, which thus swallows the eggs. Unthrifty condition.	Occasional doses of Medicine No. XXVI. in the early spring months will aid evacuation. Place a piece of rock salt in the manger.
Presence in skin of the mange insect, viz., the <i>Dermatodectes equi</i> , the <i>Sarcoptes equi</i> , or the <i>Symbiotes equi</i> .	Constant rubbing and scratching. Loss of hair. Skin inflamed and sore in affected parts. Presence of parasite.	A thorough application to all affected parts of compound sulphur oint., or sulphur oint. eight parts, and creoline one part, daily. Wash skin every three days with carbolic acid soap.
Vegetable parasite of two kinds on the skin.	Circular patches of skin denuded of hair, with formation of circular scabs. Presence of parasite. Intense irritation.	Wash thoroughly with tar soap. Dry and paint the affected spots with tincture of iodine, one part; glycerine, two parts. On alternate days substitute a saturated solution of sulphate of copper.
Parasites on skin.	Presence on the skin of the pediculi.	Application of tobacco water, followed by thorough cleansing of skin with tar soap.

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
<p>FAULTY STABLE MANAGEMENT.</p>		<p>REST. REMOVAL FROM CROWDED STABLE TO BOX-STALL OR PADDOCK. RESTRICTION TO LAXATIVE DIET, MILD PURGATIVE IN FIRST STAGE.</p>	<p>SHOULDER JOINT LAMENESS.</p>
		<p>APPLICATION OF LINIMENT No. III.</p>	<p>SWEENY (ATROPHY) OF SHOULDER MUSCLES.</p>
<p>OVERWORK.</p>		<p>HOT OR COLD WATER FOMENTATION.</p>	<p>SPRAIN OF TENDONS OR LIGAMENTS OF LEG.</p>
<p>INJURIES.</p>		<p>WOUNDS: GENERAL TREATMENT.</p>	<p>SPLINT.</p>
<p>SPRAIN.</p>	<p>LAMENESS, PAIN, OR SWELLING—ANY OR ALL OF THEM—IN AFFECTED PART.</p>	<p>Wounds heal either by direct union of the torn structures, or by the solution or sloughing of destroyed tissue, and the formation of new matter, all depending on the severity of the laceration, or the admission into the wound of pus or detrimental germs from the outside. Therefore in all cases first determine extent of injury, and if superficial, or clean cut, cleanse with cold spring water, dress with a solution of bichloride of mercury of the strength of one antiseptic tablet to one quart of water; or with a 5 per cent. solution of pure carbolic acid. Dry thoroughly, and then bandage with compress of absorbent cotton, previously covered with boric acid. Repeat dressing once a day with pressure, where bandage can be applied. If wound contains much lacerated tissue, or is deep seated, then first bathe well with hot water. Make wound antiseptic with either of the above-mentioned dressings. Remove all loose destroyed tissue, and apply cotton wool, well soaked in Antiseptic Solution No. XIII., secured in place as well as possible. Repeat bathing in amount proportioned to external swelling. When pus forms, irrigate frequently with a solution of peroxide of hydrogen of strength from 5 to 10 per cent., according to the amount of pus. If the swelling is hard and painful around the wound, apply Liniment No. III. In wounds of tendons or joints exclude air as quickly as possible, by means of absorbent cotton, soaked in Sol. No. XV., and secured by tight bandage, having previously covered wound with a mixture of equal parts of boric acid and aristol. Remove dressing if pain, or fever, or swelling makes removal necessary.</p>	<p>RINGBONE.</p>
<p>HEREDITY.</p>	<p>LOCAL HEAT AND INFLAMMATION.</p>		<p>SIDEBONE.</p>
<p>BAD NATURAL CONFORMATION.</p>			<p>WINDGALLS.</p>
<p>NEGLECT OF TREATMENT IN EARLY STAGE.</p>		<p>In gun-shot wounds probe to extract bullet or other foreign matter. Irrigate freely with a 5 per cent. solution of peroxide of hydrogen, and if possible make a surgical drain for discharges with the knife.</p>	<p>NAVICULAR DISEASE.</p>
		<p>In all wounds give loose diet, and when there is elevation of temperature (traumatic fever) give Medicine No. XXI. every four hours as long as the fever continues.</p>	<p>LAMINITIS OR FOUNDER.</p>
			<p>CONTRACTED FEET.</p>

DISEASES.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Concussion. Strain. Overwork. Bruise.	Inability to extend affected limb equally with other one. Stubbing the toe. Swelling at point of shoulder. Pain shown on forcible outward and forward extension of limb.	Hot fomentation and application of liniment No. III. to point of shoulder. Complete rest. If the horse be not better in a few days, apply to point of shoulder Blister No. VII. Repeat in three weeks, if necessary.
Paralysis of nerve supplying muscles of shoulder. Tight collar. Over-pulling when the horse is not in condition.	An evident shrinking of the muscles overlying the blade bone of affected shoulder, causing distinct depression. Occasional lameness. Stumbling.	Complete rest. Daily hand-rubbing for seven days with liniment No. I. Afterwards apply Blister No. VII. Repeat in three weeks. If not well after two blisters, put seton in shoulder over the depression, and turn out to pasture for three months.
Imperfect conformation of limb. Over-exertion. Carrying too heavy a weight. Sprain.	Decided swelling of tendons or ligaments at back of leg. Pain on pressure. Severe lameness in acute stages, gradually decreasing as inflammation subsides. Swelling remains after work.	Apply hot, wet bandages with Liniment No. VI., followed in twenty-four hours with Paste No. 39 for two days. On the fourth day apply Iodine Liniment No. IV., with constant bandaging. If swelling remains after two weeks' treatment, blister with Ointment No. VIII.
Heredity. Insufficiency of lime salts in food. Overwork when young.	A plain distinct bony swelling on the inside or outside of the leg, between the knee or the hock, and the fetlock. Lameness in first stages.	First apply Liniment No. VI., with hot, wet bandages for thirty-six hours. Then use Iodine Liniment No. IV. In chronic stage, if lameness exists, blister with Ointment No. IX., and repeat in three weeks if necessary.
Heredity. Overwork when young. Concussion.	A round bony enlargement on the coronet, encircling the limb in fore or hind leg. Persistent lameness.	In early stages frequent applications of Liniment No. V. In chronic stage repeated blister with Ointment No. VIII.
Heavy work on hard pavement. High caulks on shoes. Heredity.	Bony enlargement on inside or outside or on both sides of the structures just above the hoof. The disease is an ossification of the normally flexible cartilage, springing from the hoof.	Repeated blisters with Ointment No. VIII. Application of Liniment No. V., and shoeing with wedged heel shoe, drawn back as far as possible, will keep animal serviceable.
Overwork. Improper attention after work.	Soft elastic swelling on the inside and outside of the fetlock joint of any limb.	Rest. Tight bandaging over-night with cotton wool soaked in Iodine Liniment No. IV., secured by linen bandage.
Heredity. Contracted heels. Excess of nitrogenous food.	Obscure lameness in one or both feet, with no external signs of disease. Intermittent lameness, which disappears on "warming up." Returns after short rest. "Pointing" of feet in stable. Uneven temperature of feet, <i>i.e.</i> , one foot being warmer than the other.	Treatment ineffectual. Relief in early stages can be obtained by expansion of hoofs by special shoe to expand the heels, and application of cold wet pads to sole. Unnerving will cause lameness to disappear, but operation is of doubtful value, and in some cases may be deleterious.
Overfeeding. Irregular or improper feeding, or watering.	Excessive lameness. Animal difficult to move in acute attack. Great disturbance of pulse and breathing, with great pain on movement. Pain and lameness much less in later or chronic stage. Sole of foot descends and causes flat and sometimes convex surface.	Fever Medicine No. XX. every four hours during acute stage. Apply Liniment No. II. to coronets, and hot linseed poultices to feet in acute stage. Application of bar shoes. Regulate bowels with loose diet and Medicine No. XXVIII. In chronic cases blister the coronets with Ointment No. VII., and turn out to pasture.
Heredity. Improper shoeing and bad attention to feet.	Abnormal contraction of hoofs at heels. Small frog, with frequent offensive discharge.	Shoe with heel expansion shoe. Pack the feet with linseed, and use Hoof Ointment No. XI. twice a day.

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
<p>FAULTY STABLE MANAGEMENT.</p>		<p>REST. REMOVAL FROM CROWDED STABLE TO BOX-STALL OR PADDOCK. RESTRICTION TO LAXATIVE DIET, MILD PURGATIVE IN FIRST STAGE.</p>	<p>SANDCRACK OR QUARTER CRACK.</p>
<p>OVERWORK.</p>		<p>APPLICATION OF LINIMENT No. III.</p> <p>HOT OR COLD WATER FOMENTATION.</p> <p>WOUNDS : GENERAL TREATMENT.</p>	<p>CORNS.</p>
<p>INJURIES.</p>		<p>Wounds heal either by direct union of the torn structures, or by the solution or sloughing of destroyed tissue, and the formation of new matter, all depending on the severity of the laceration, or the admission into the wound of pus or detrimental germs from the outside. Therefore in all cases first determine extent of injury, and if superficial, or clean cut, cleanse with cold spring water, dress with a solution of bichloride of mercury of the strength of one antiseptic tablet to one quart of water; or with a 5 per cent. solution of pure carbolic acid. Dry thoroughly, and then bandage with compress of absorbent cotton, previously covered with boric acid. Repeat dressing once a day with pressure, where bandage can be applied. If wound contains much lacerated tissue, or is deep seated, then first bathe well with hot water. Make wound antiseptic with either of the above-mentioned dressings. Remove all loose destroyed tissue, and apply cotton wool, well soaked in Antiseptic Solution No. XIII, secured in place as well as possible. Repeat bathing in amount proportioned to external swelling. When pus forms, irrigate frequently with a solution of peroxide of hydrogen of strength from 5 to 10 per cent., according to the amount of pus. If the swelling is hard and painful around the wound, apply Liniment No. III. In wounds of tendons or joints exclude air as quickly as possible, by means of absorbent cotton, soaked in Sol. No. XV., and secured by tight bandage, having previously covered wound with a mixture of equal parts of boric acid and aristol. Remove dressing if pain, or fever, or swelling makes removal necessary.</p>	<p>QUITTOR.</p>
<p>SPRAIN.</p>	<p>LAMENESS, PAIN, OR SWELLING—ANY OR ALL OF THEM—IN AFFECTED PART.</p>		<p>HIP-JOINT LAMENESS.</p>
<p>HEREDITY.</p>	<p>LOCAL HEAT AND INFLAMMATION.</p>		<p>STIFLE JOINT LAMENESS.</p>
<p>BAD NATURAL CONFORMATION.</p>			<p>CAPPED HOCK AND ELBOW TUMOUR.</p>
<p>NEGLECT OF TREATMENT IN EARLY STAGE.</p>		<p>In gun-shot wounds probe to extract bullet or other foreign matter. Irrigate freely with a 5 per cent. solution of peroxide of hydrogea, and if possible make a surgical drain for discharges with the knife.</p> <p>In all wounds give loose diet, and when there is elevation of temperature (traumatic fever) give Medicine No. XXI. every four hours as long as the fever continues.</p>	<p>THOROUGH - PIN. BOG-SPAVIN. BLOOD - SPAVIN.</p> <p>CURB.</p> <p>BONE - SPAVIN.</p>

DISEASES.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Brittleness of hoof. Bad stable management. Faulty shoeing.	Fissure in horn of foot of varying extent and depth.	If not deep, remove with knife and rasp. If deep, a V-shaped piece of horn embracing the crack must be removed, and the horn kept in close contact by strap or buckle around the hoof. Allow complete rest until new horn is grown. Apply Hoof Ointment No. XI.
Inelasticity of horn, due to climate or neglect. Injury to sole by undue pressure of shoe.	More or less lameness, with heat, in foot. Discoloured horn of sole in the angle formed by the bar and wall of hoof, evident on paring the surface of sole. In chronic cases the outer horn over the corn is hard and dry; but in acute cases soft, and if pus has formed, it may be moist.	Pare off diseased portion. Give free vent to pus and insert a plug of oakum, saturated with alcoholic solution of bichloride of mercury, one part of latter to eight of alcohol, and poultice one or two days. Afterwards shoe with a three-quarter shoe, or place a plate of leather between the shoe and the sole, so as to relieve pressure on affected part.
Pus formation with local gangrene of coronet. Result of injury or pricked foot in shoeing. Local irritation in cold muddy weather.	Intense local heat and pain on pressure to coronet, followed by an open sore, from which pus exudes, and extends downwards into the structure of the foot.	Examine sole of foot, and evacuate pus. Poultice coronet with linseed, after first inserting into abscesses a plug of cotton wool saturated with a 5 per cent. solution of bichloride of mercury in alcohol. After twenty-four hours dress with 20 per cent. solution of peroxide of hydrogen only.
Concussion, especially during severe muscular action. Injury. Rheumatism.	Distinct swelling of affected limb in joint. Pain on manipulation of limb outwards. Extension of limb limited. Catching of toe on ground in the trot.	Rest. Hot fomentations in early stage, with application of Liniment No. II. Afterwards blister over joint with Ointment No. VIII. Repeat in three weeks, if necessary.
Strain or injury, generally due to slipping. Rheumatism.	Swelling, heat and pain in joint. Difficulty in extending the limb.	Rest. Use Liniment No. I. in early stage. Blister once in three weeks with Ointment No. VII. as long as necessary.
Bruised structure under cap of hock or elbow, caused by rubbing hock in stable, night kicking, or by shoe of fore foot injuring elbow when lying down.	Unsightly enlargement of hock or elbow, with more or less inflammation and ultimate chronic thickening of structures involved.	Hand-rub with Liniment No. III. in early stage. Then apply Liniment No. IV. three or four times a day. If chronic swelling remains, apply Blister No. IX. In elbow tumours only, if fluid is perceptible after first treatment, lance and evacuate contents, and dress with Ointment No. X.
Excess of synovia in the sacs of hock joint or in tendon capsule, the result of rupture or strain of sac, by over-exertion or accident.	Soft fluctuating swelling of hock joint. If round in front and inside, called "bog spavin." When in the hollows of joint, and by pressure made more prominent on either side, it is called "thorough pin."	In first stage alternate application of hot and cold water bandages. Use Liniment No. IV. In second stage repeat blisters every three weeks with Ointment No. VIII. If still obdurate, careful application of firing iron by competent surgeon.
Sprain of back tendons or ligament of hock joint, result of over-exertion, slipping or jumping. Heredity.	Swelling of back of hock joint, hard in character. Lameness perceptible after severe exertion. "Frequent dropping" of hind limb in action.	Repeated application of Anodyne Liniment No. V. In second stage Blister No. VIII. every three weeks. Afterwards, if necessary, the operation of firing.
Extra growth of bone in front and on side of hock of varying extent; the product of inflammation due to over-exertion or accident in animal predisposed by heredity. High calkins in cart horses.	Hard bony swelling on inside and front of hock joint. Lameness is more pronounced after short rest, but will, in early stages, disappear when the horse is "warmed up." Wearing of the toe. Lameness increased if limb is held up in a flexed position for a short time.	Repeated blistering every three weeks with Blister No. VIII. Puncture firing in second stage. If firing and blistering give no relief, no cure is possible. Partial relief from lameness may be obtained by use of Liniment No. V. before work.

<i>General Causes.</i>	<i>General Symptoms.</i>	<i>General Treatment.</i>	<i>Specified Diseases.</i>
FAULTY STABLE MANAGEMENT.		<p>REST. REMOVAL FROM CROWDED STABLE TO BOX-STALL OR PADDOCK. RESTRICTION TO LAXATIVE DIET, MILD PURGATIVE IN FIRST STAGE.</p> <p>APPLICATION OF LINIMENT No. III.</p> <p>HOT OR COLD WATER FOMENTATION.</p> <p>WOUNDS: GENERAL TREATMENT.</p>	CANKER.
OVERWORK.		<p>Wounds heal either by direct union of the torn structures, or by the solution or sloughing of destroyed tissue, and the formation of new matter, all depending on the severity of the laceration, or the admission into the wound of pus or detrimental germs from the outside. Therefore in all cases first determine extent of injury, and if superficial, or clean cut, cleanse with cold spring water, dress with a solution of bichloride of mercury of the strength of one antiseptic tablet to one quart of water; or with a 5 per cent. solution of pure carbolic acid. Dry thoroughly, and then bandage with compress of absorbent cotton, previously covered with boric acid. Repeat dressing once a day with pressure, where bandage can be applied. If wound contains much lacerated tissue, or is deep seated, then first bathe well with hot water. Make wound antiseptic with either of the above-mentioned dressings. Remove all loose destroyed tissue, and apply cotton wool, well soaked in Antiseptic Solution No. XIII., secured in place as well as possible. Repeat bathing in amount proportioned to external swelling. When pus forms, irrigate frequently with a solution of peroxide of hydrogen of strength from 5 to 10 per cent., according to the amount of pus. If the swelling is hard and painful around the wound, apply Liniment No. III. In wounds of tendons or joints exclude air as quickly as possible, by means of absorbent cotton, soaked in Sol. No. XV., and secured by tight bandage, having previously covered wound with a mixture of equal parts of boric acid and aristol. Remove dressing if pain, or fever, or swelling makes removal necessary.</p>	POLL-EVIL AND FISTULA OF WITHERS.
INJURIES.			THRUSH.
SPRAIN.	LAMENESS, PAIN, OR SWELLING—ANY OR ALL OF THEM—IN AFFECTED PART.		GREASE AND SCRATCHES.
HEREDITY.	LOCAL HEAT AND INFLAMMATION.		SEEDY TOE.
BAD NATURAL CONFORMATION.			SORE SHOULDERS, SADDLE GALLS, AND KIDNEY SORES.
NEGLECT OF TREATMENT IN EARLY STAGE.		<p>In gun-shot wounds probe to extract bullet or other foreign matter. Irrigate freely with a 5 per cent. solution of peroxide of hydrogen, and if possible make a surgical drain for discharges with the knife.</p> <p>In all wounds give loose diet, and when there is elevation of temperature (traumatic fever) give Medicine No. XXI. every four hours as long as the fever continues.</p>	BRUISES.
			TUMOURS AND ABSCESSSES.

DISEASES.

<i>Special Causes.</i>	<i>Special Symptoms.</i>	<i>Special Treatment.</i>
Presence of vegetable parasite causing fungous secretion of imperfect horn in sole of foot.	Rapid destruction of horn of whole of sole, leaving ragged edges. Excessive growth of new soft fungous horn, which does not cohere. Characteristic fœtid discharge. Lameness.	Total removal of diseased horn. Apply to sole of foot Ointments No. XXXVII. and X. on alternate days, applying as much mechanical pressure to sole as possible with cotton wool pads.
Bruise of the ligamentous and sometimes bony structures underlying the poll or withers, resulting from injury, such as catching the neck on beam, or blow, or pressure of harness.	Painful fluctuating swelling on the poll or withers, with constant discharge of pus when the skin is broken, and pressure is applied to the sides of the tumor.	Efficient incisions aimed to obtain a free discharge of pus. Thorough irrigation with a 5 per cent. solution of carbolic acid or a 20 per cent. solution of peroxide of hydrogen or a one per cent. solution of bichloride of mercury. These solutions to be used in turn.
Dirty, wet, or over-heated stable. Contracted heels. Bruised frog. Navicular disease.	Fœtid discharge from the cleft of frog, with more or less destruction of horn of frog only.	Cleanse thoroughly with solution of perchloride of mercury, one part to fifty of alcohol. Pare out diseased frog, and dress daily with calomel inserted in cleft of frog on piece of cotton-wool.
Simple or malignant inflammation of skin in pan of heel. Exposure to cold and wet. Standing in liquid manure. Gross feeding. Eczema. General neglect.	Red inflamed patches in the heel, with discharge more or less offensive. Skin sometimes ulcerated, and at other times covered with "proud flesh" or fissures. Lameness.	In simple cases apply Ointment No. X. with dry bandage. In severe cases bathe heels alternately with hot and cold water, dry thoroughly, and apply Ointment No. XII. alternated with Ointment No. XXXVIII., and bandage at night. Give tablespoonful of Powder No. XVI. once daily in food.
Presence of a horn parasite, between outer and inner layer of horn of foot.	Slight lameness and existence of cavity between the two layers of horn of walls of hoof, extending from sole to coronet. Cavity often contains soft or powdered horn.	Cut away sufficient horn to allow of the insertion of a mixture of equal parts of glycerine and carbolic acid, so as to reach all affected horn.
Imperfectly fitting collar or saddle. Naturally bad conformation of animal. Uncleanliness and neglect. Bad riding.	In first stages a circumscribed puffy swelling of skin, soon followed by loss of hair, and the appearance of an open sore.	Cleanse thoroughly with antiseptic solution No. XV., and apply Liniment No. III. three times a day. After forty-eight hours substitute No. X. Ointment. In the event of sloughing of any diseased skin, use Ointment No. XXXVIII.
Injury.	A soft fluctuating swelling under skin, which may contain blood, serum, or pus, if occurring on the soft parts of the body; but swelling is hard and tense if the bruise is on the bone or ligamentous structures.	If swelling is great, bathe with hot water, dry thoroughly, and use Liniment No. III. If swelling is slight, apply cold water application and Lotion No. VI. If fluid or pus forms, lance when ripe. Evacuate contents, and irrigate with a 10 per cent. solution of peroxide of hydrogen.
Local inflammation of structures immediately under the skin, or of glands, resulting from injury or blood poison.	Hard defined swelling in any part of the body distinct from the natural structures, becoming soft only when pus forms.	If hard, use first Liniment No. I., and if persistent, blister with No. VIII. When swelling fluctuates, lance freely, and evacuate contents and irrigate with a 10 per cent. sol. of peroxide of hydrogen. If induration remain, the tumour must be dissected out by competent surgeon.

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