epsom or rochelle salts, and the fluid fecal matter was collected in clean porcelain dishes with covers. This material was examined in a perfectly fresh condition. The series consisted of 50 patients, and the infections noted are tabulated as follows:

Total cases with intestinal parasitic infection, 18.	11 cases
<i>Amœba</i>	4 cases
<i>Uncinaria duodenalis</i> (ova)	4 cases
<i>Tricocephalus dispar</i> (ova)	3 cases
<i>Strongyloides intestinalis</i> (ova)	1 case
<i>Opisthorcus sinensis</i> (ova)	1 case
<i>Ascaris lumbricoides</i> (ova)	1 case
<i>Hymenolepis nana</i> (ova)	1 case

From the preceding figures it is evident that plural infections were present. They were as follows:

<i>Amœba</i> and <i>Strongyloides</i>	2
<i>Amœba</i> , <i>Ascaris</i> , <i>Uncinaria</i> and <i>Tricocephalus</i>	1
<i>Amœba</i> and <i>Opisthorcus</i>	1
<i>Amœba</i> alone	7
Total	11
<i>Strongyloides</i> and <i>Amœba</i>	2
<i>Strongyloides</i> alone	1
Total	3
<i>Uncinaria</i> and <i>Hymenolepis</i>	1
<i>Uncinaria</i> , <i>Amœba</i> , <i>Ascaris</i> and <i>Tricocephalus</i>	1
<i>Uncinaria</i> alone	2
Total	4
<i>Tricocephalus</i> , <i>Amœba</i> , <i>Ascaris</i> and <i>Uncinaria</i>	1
<i>Tricocephalus</i> alone	3
Total	4

Contrary, then, to the report I had received, amebas are not infrequently found in the stools of natives of Siam. Moreover, it can not be said that these amebas are of the non-pathogenic type, if such there be. At least three of the patients examined were suffering from a true amebic dysentery, others had more chronic or subacute intestinal symptoms.

In all 50 cases were examined, of which 18, 36 per cent., presented infections with intestinal parasites (exclusive of monads which were present in at least 60 per cent. of all the cases). Of the 18 cases of infection, 11 showed amebas, a percentage of over 61 per cent.

PERCENTAGE OF INFECTED CASES OUT OF A TOTAL OF 50.

	No.	Per ct. of infected cases.	Per ct. of total cases.
Infected cases	18	36	36
Infected with <i>Amœba</i>	11	61.1	22
Infected with <i>Uncinaria</i>	4	22.2	8
Infected with <i>Tricocephalus</i>	4	22.2	8
Infected with <i>Strongyloides</i>	3	16.6	6
Infected with <i>Opisthorcus</i>	1	5.5	2
Infected with <i>Ascaris</i>	1	5.5	2
Infected with <i>Hymenolepis</i>	1	5.5	2

The only conclusion that one may draw from these figures is that infection with animal parasites is widespread in Siam (the patients being from various districts and a few were Chinese), and that amebic infection is very common. It is my intention to make more complete records on this subject as time and opportunity allow.

So far as I can discover, *Opisthorcus sinensis* has not been previously reported from Siam. *Hymenolepis nana* has been reported from Siam by Rasch.¹

1. Deutsch. med. Ztschr., 1895.

Palpation to Find Position of Fetus.—B. G. Snyder, in the *Canada Lancet*, June, 1906, in discussing the position of the fetus in utero, emphasizes the value of external palpation, as a convenient, simple method, which practically eliminates the danger of infection. It is of most value before labor, but the progress of labor can be judged just as accurately after a little practice by this method as by repeated vaginal examinations. Lastly, it compels a physician to study the different positions of the child and their relations to the birth canal and thus makes him a more intelligent obstetrician.

THE TREATMENT OF PURPURIC CONDITIONS AND HEMOPHILIA.*

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It is not the purpose of this paper to discuss the numerous theories concerning the etiology and pathology of these interesting conditions, for the multiplicity of ideas is the best evidence of the obscurity which still surrounds them, but to outline a course of treatment which has been beneficial.

Since A. E. Wright, in 1891 and 1893¹ and in subsequent articles, advocated the use of the chlorid of calcium to hasten the coagulation of the blood, many patients with hemorrhagic tendencies have been greatly helped by it while with others it seems inert. The preparations of the adrenal gland are also of value in many cases.

Boggs,² in 1904, demonstrated that the lactate of calcium had the same accelerating effect on coagulation as the chlorid.

Wright³ and Paramore,³ in 1905, published the results of a series of experiments in which they used the lactate of calcium and the carbonate of magnesium, as well as the chlorid of calcium. They found that the coagulation time was more uniformly influenced by the lactate than by the chlorid and that the magnesium salt had a similar accelerating effect. These were merely laboratory tests, some of them made on normal individuals, others on patients with various ailments, and the drugs were not used therapeutically.

During the past few months I have treated several patients with the lactate of calcium, with results that seem worth recording.

CASE 1.—A well-known physician, aged 53, who has one of the largest general practices in New York, is a member of a hemophilic family. His grandfather and father were bleeders, as are also a sister and a son. In the patient the tendency to bleed appeared when he was ten years old. The bleeding has always been most profuse from the nose, but he has bled much from skin of the face and head and from the mucous membranes of the mouth. The nasal hemorrhages have often been prostrating and have been increasing in severity and frequency, often requiring plugging once or twice a day.

Needless to say, this patient has had the best of local treatment by specialists and, as he says, has taken barrels of calcium chlorid and the adrenalin preparations with no benefit. During the autumn of 1905, the bleeding was more profuse than ever before and the patient's large practice was a burden to him.

Blood Examination.—On December 17, the red blood cells were 3,680,000, white cells, 5,000, and the hemoglobin 70 per cent. The stained specimens showed pallor of the red cells, moderate variations in size and shape with a number of large cells. The plates were decidedly below normal as judged from a stained specimen. The differential count of the leucocytes was normal and need not be given in detail.

Treatment and Result.—At that time the patient was bleeding, practically every day and very profusely. On December 21, when bleeding, fifty grains of calcium lactate, dissolved in water, were taken and in half an hour the hemorrhage ceased with no other treatment.

During the next week, that is until December 29, twenty grains of this drug were taken three times a day. There was no bleeding, but once or twice there was slight oozing from the nose, which stopped in a few seconds.

* Read before New York Academy of Medicine, May 22, 1906.

* From the Laboratory of Clinical Pathology, Cornell University Medical College.

1. British Medical Journal, Dec. 19, 1891; July 29, 1893.

2. Deutsche Archiv. für klin. Med., March 15, 1904, p. 539.

3. Lancet, Oct. 14, 1905, p. 1096.

No calcium lactate was taken from then until January 10, and, after a few days, moderately severe attacks of epistaxis began again.

On the evening of January 10 there was a profuse hemorrhage and the patient took sixty grains of the calcium lactate. The bleeding stopped almost at once.

By January 14 there had been a gain in weight of five pounds since starting the treatment, and the condition of the blood steadily improved. The experiment of stopping the lactate for several days was repeated on several occasions, always with the same result. During the last two months the patient has taken about once a week fifty grains of the lactate and has been comparatively free from bleeding. Occasionally there has been a hemorrhage of moderate severity, but always soon controlled. Previously, the putting of the head down, as in the act of lacing the shoes, would usually be followed by epistaxis, often lasting for hours. For months now, much more violent exertion than this has caused no discomfort. Examination of the blood a short time ago showed a perfectly normal condition.

The coagulation time in this patient, as measured by Wright's tubes, was never very high, being between six and seven minutes, but it is invariably lowered from a minute to a minute and a half by a full dose of the lactate. This effect is produced in an hour at the most and persists for about a week.

Probably no one would be so optimistic as to expect a cure of such a marked case of hemophilia running through four generations, but the improvement has been so marked and, to date, so constant that, compared with his previous condition, the patient is well.

This man's son, 23 years old, began to have frequent attacks of epistaxis at the age of 16. The hemorrhages have never been very profuse, but have made him quite uncomfortable, as they began without the slightest warning while he was walking along the street or at the table, etc. No records of his case have been kept, but during the past five months he has taken an occasional dose of the lactate, about forty grains once a week, and his condition has been much better than for years.

CASE 2.—J. S., male, aged 17, student, family history entirely negative.

History.—This boy began to have frequent, profuse attacks of epistaxis when five years old. These have recurred at irregular intervals to date, at times lasting for hours and causing him to faint. The gums and mucous membrane of the mouth at times ooze blood, but there has been none in the urine or stools. The severe attacks have usually been accompanied by numerous hemorrhagic areas over the legs, arms and beneath the eyes. When thirteen years old he began to have occasional rheumatic pain in the knees. This trouble has frequently recurred, usually with slight fever for a few days, and is associated with an outbreak of petechiæ on the legs. His physician, Dr. E. W. Perkins, states that practically all the time for years the boy has had well-marked purpuric eruptions somewhere on the body. The slightest bruise is invariably followed by ecchymosis. Four years ago, after having a molar tooth pulled, he bled profusely for three hours.

Examination.—When first seen, March 6, 1906, there was a moderate number of petechiæ over both legs and several larger areas on the thighs. The mucous membranes of the mouth showed several small purpuric spots and there were marks on the trunk, as from bruises.

Blood Examination: This showed: red cells, 4,680,000, white cells, 6,000, hemoglobin, 80 per cent. The coagulation time was four minutes. A stained specimen showed a normal differential count and that the blood plates were very few. Later the plates were counted and were found to be 29,000 to the cubic millimeter.

Treatment and Results.—The patient was given fifteen grains of calcium lactate three times a day for a week. At the end of this time the coagulation time was unchanged, being four min-

utes. The purpuric spots were much faded and no new areas had developed. A severe blow on the right knee had resulted in no ecchymosis.

The calcium lactate was stopped on March 20. On March 27 a profuse eruption appeared on the thighs and legs, associated with pains in both knees. The patient was given salicylic acid and sodium bicarbonate with fifteen grains of calcium lactate every morning. Four days later he reported that the improvement had been very rapid, much more so than from any previous attack. The purpuric eruption had nearly disappeared. He was then given Fowler's solution and iron with fifteen grains of calcium lactate, twice a week. From this time until May 14, that is, for more than six weeks, he remained free from bleeding, with the exception of an occasional spot on one or the other leg, and all the time he was playing and exercising as vigorously as other boys. He then neglected to have the prescription for the calcium lactate refilled and two days more than usual having elapsed between the doses, he was awakened on the morning of May 14 by the most severe attack of epistaxis for months. This lasted for over an hour.

The coagulation time on this date was four and one-quarter minutes and the blood plates very few.

It is interesting to note that in spite of the decided hemorrhagic tendency in this boy the coagulation time is at all times a low normal, the variations in health being between three and six minutes by Wright's tubes.

CASE 3.—A. H. G., aged 31, male, married, instructor in Latin. Family history entirely negative.

History.—The patient has never had any serious illness. When about six years old he bled profusely for hours after having a tooth pulled. Two years later frequent attacks of epistaxis began. The bleeding occurred from either nostril or from both simultaneously, and often continued for hours, requiring packing. Such attacks have recurred frequently to date and last autumn became more numerous than ever before, being only from four to seven days apart for weeks.

Any slight bruise, as even the rubbing of a dress-suit case on the legs, is always followed by ecchymotic areas. The last of December he developed a carbuncle on the upper lip. At the operation, performed in one of the large hospitals in the city, the bleeding was not extreme, but at the subsequent dressings, profuse hemorrhage occurred. He was given calcium chlorid with some benefit. A few days after leaving the hospital the epistaxis recurred.

Blood Examination.—When referred to me by Dr. D. B. Brinsmade, Jan. 23, 1906, the red blood cells were 4,372,000; white cells, 12,000, and the hemoglobin 70 per cent. A stained specimen showed marked pallor of the cells. The blood plates were very few and small in size. This point has also been noted in all subsequent specimens examined. On one occasion, when counted, they were 22,000 to the cubic millimeter. The differential count was normal. Before beginning treatment the coagulation time was eight and a quarter minutes. This promptly fell to seven minutes, where it remained.

Treatment and Result.—The patient was given twenty grains of the lactate of calcium three times a day for a week and after that forty grains twice a week. On February 5 he returned to work feeling as strong as ever and had no tendency to hemorrhage, even on blowing the nose.

On February 13 medication was stopped and not resumed for a month. Then oozing began on three occasions from the left nostril, but ceased after taking sixty grains of the calcium lactate. His condition then continued excellent.

Examination about the middle of April showed several small ecchymotic areas. There had been no bleeding from these, but thinking to prevent any future hemorrhage, they were cauterized with silver nitrate solution. In less than twenty-four hours severe epistaxis, lasting several hours, occurred from sloughing. Since then administration of calcium lactate has been continued twice a week and he has also been given iron with Fowler's solution. There has been no further hemorrhage.

CASE 4.—J. C. K., aged 44, male, single, family history excellent.

History.—For twenty-one years the patient has been advance agent for a minstrel troupe and very active. He has al-

ways been in perfect health, except that two years ago he was treated for a mild attack of lumbago. The only indication of rheumatism has been slight pain and stiffness in the left shoulder at intervals, since last December. He first came under observation on Jan. 6, 1906.

This patient showed no purpuric tendency until the middle of June, 1905, when he noticed a purplish area several inches in diameter on the left thigh, followed a few days later by a similar area on the right thigh. About August 1 numerous small spots appeared on both legs and since then successive crops come and go, so that he has never been free from them. Walking is always followed by innumerable new eruptions. At times many spots have appeared on the limbs. The slightest bruise was invariably followed by an ecchymotic area.

While riding on a train, June 24, 1905, he had a sudden, profuse hemorrhage from the right nostril and fainted away. Between then and October 1 there were five very severe attacks of epistaxis, requiring packing of both nares. After one of these the patient was in a hospital for three weeks, merely from exhaustion, and he has not been able to work since early last autumn. There had been no profuse epistaxis since October 1, but frequent oozing from the nose. Numerous hemorrhagic areas have appeared on the gums and throughout the mouth. There has never been any blood in the urine or stools.

This patient was treated in several cities, both in hospitals and by physicians in private. He states that he was given calcium chlorid, the adrenal preparations, ergot, etc., and that the nose was treated locally with numerous styptics.

Examination.—When first seen, Jan. 6, 1906, there were multitudes of petechial and ecchymotic areas in all stages of development over both legs. There were a few small spots scattered over the trunk and large areas on the arms. The lips showed several spots, the gums were discolored in places and appeared soft.

Blood Examination: On January 6, blood examination showed red cells 4,928,000, white cells, 8,000, hemoglobin, 70 per cent. The differential count was normal and the plates practically absent.

Treatment and Result.—The patient was given sixty grains of calcium lactate at once and fifteen grains three times a day for a week. Two hours after the initial dose the coagulation time was lowered from six and one-quarter to five and one-quarter minutes. As this patient lived out of the city he was seen only once a week and later once in two weeks.

After the first week's treatment there was a marked improvement, the old spots fading, a few new ones appearing. The patient stated that he had noticed a change for the better in three or four days. From that time there has been a slow but steady improvement. For experimental purposes the calcium lactate was stopped on several occasions; such action was invariably followed by numerous petechiae. At these times also the coagulation time was lengthened, only to be lowered by the lactate.

During the last two months this patient has taken regularly thirty grains of the lactate twice a week. He has led a very active life, often walking several miles a day over rough country and through bushes, and has also rowed a boat long distances. His condition is excellent and he seems a well man.

Blood examination recently showed the red cells to be 5,280,000, white cells, 9,000, and the hemoglobin, 90 per cent. A stained specimen was normal, except that the plates were still very low. The count of the plates was 25,023 to the cubic millimeter. This being so we do not consider this man cured, but believe the purpuric tendency is kept under control. The patient thinks himself as well as ever and is going to return to work soon.

CASE 5.—H. H., male, aged 33, married.

History.—This man was very large and robust and had never had any sickness. For years he has been a steady drinker, taking three or four glasses of beer and one glass of whisky a day. He was first seen by Dr. L. L. Bradshaw, to whom I am indebted for the case, on April 8, 1906. Four months before, the patient had noticed a few reddish spots on the right ankle. These slowly extended upward to the knee and to the left leg. As there was no discomfort he did not consult a physician and continued at his work in a lumber

yard. About two weeks before coming under observation he began to spit blood occasionally, from oozing of the gums, and this continued. On April 7 this was much more profuse, but he still worked all day. That evening eruption appeared over the entire body.

Examination.—When seen on April 8 there were petechial and ecchymotic areas, some larger than a palm, over the entire body, face and scalp. He was spitting blood several times a minute from the gums, and all of the mucous membranes of the mouth. Sixty grains of calcium lactate were at once given and thirty grains ordered three times a day. The next day, many of the areas had ruptured and were covered with crusts. The gums still bled freely.

Blood Examination: This showed red cells, 4,480,000, white cells, 12,000, hemoglobin, 90 per cent. The differential count was polynuclear leucocytes 79 per cent., lymphocytes, 12.3 per cent., large mononuclears, 4.3 per cent., transitional, 4 per cent., eosinophiles, 0.3 per cent. The plates were practically absent.

Urine: On the evening of this day the patient began to pass large amounts of blood in the urine. A specimen, centrifuged, showed 13 per cent. of sediment composed almost entirely of red cells. Large amounts of quite fresh blood also appeared in the stools.

Course of Disease.—The following day, April 10, there was much less blood from the mouth and the skin eruptions were fading. The urine showed 10 per cent. of blood. The anemia was increasing. The red cells showed marked variation in shape and size and a few normoblasts appeared. On April 11 the coagulation time, then taken for the first time, was eight minutes, and this was after large doses of the calcium lactate for several days. The urine showed 5 per cent. of blood. April 12, through a mistake of the nurse, sixty grains of the calcium lactate were given every three hours for six doses, but no ill effects followed. On the following day, the thirteenth, the urine was free from blood and all bleeding had ceased from the skin and mucous membranes. The red cells were now 3,168,000, white cells, 13,500, and the hemoglobin, 60 per cent. The coagulation time was six and three quarters minutes. The plates were still almost absent.

For several days during the bleeding period the temperature varied between 100 and 102 F. by mouth, and the pulse between 100 and 120. This, with the presence of a polynuclear increase, is an indication of an infection of some sort.

On April 14, Fowler's solution was begun in doses of four minims every four hours. On the next day the blood plates were fairly numerous, scattered throughout the specimen, but none occurring in clumps, as is normally seen. Many of them were large. The calcium lactate was continued, thirty grains three times a day, until April 17, when it was stopped. On April 21, the plates appeared normal in number and the improvement in the general condition was marked. The urine now showed a trace of albumin and a few hyaline casts, so the arsenic was discontinued. No further blood examination was made until April 27, when it was noted that the plates were again much reduced and a remark was made to the attending physician that more bleeding would probably occur.

On the evening of April 30 blood began to ooze from the gums. This gradually increased, reaching a maximum on May 3, when there was considerable bleeding from the gums and tongue, but not approaching in severity the original attack. There was no bleeding elsewhere. Only one dose of calcium lactate of 30 grains was given daily for the first three days, but on May 3 the dose was increased to 40 grains every three hours.

I did not see the patient until May 4, when the red cells were 4,120,000, white cells 7,000 and hemoglobin 70 per cent. The coagulation time was eight and three-quarters minutes. The plates were still nearly absent. The bleeding was much less on this day and ceased on May 5.

A blood specimen taken May 9 showed a few scattered plates. Administration of arsenic was started on this day. On May 10 the plates were much more numerous, many occurring in clumps. The next examination was on May 14, when they were perfectly normal in appearance. The calcium lactate was slowly decreased, first to 20 grains three times a day, then

twice a day and to one dose daily. The improvement has been rapid and the patient is now out of doors.

This case was one of acute hemorrhagic purpura of the most severe type. The prognosis in a large proportion of these is extremely grave.

Sahli,⁴ as late as 1905, made the statement that the value of calcium chlorid in hemophilia is still awaiting judgment.

In view of the cases here reported, it seems that the calcium, or probably the magnesium salts as well, offer the best hope of relief of any therapeutic measure so far advised.

We are, of course, aware that theoretically there is some danger of causing thrombi formation, but this must be slight if we determine with each case the minimum dose necessary to make the patient comfortable. Thirty or forty grains of calcium lactate once or twice a week is usually sufficient in the chronic cases. The large doses given to the patient with acute hemorrhagic purpura is evidence of the harmlessness of the drug when such doses are necessary.

The lactate is more easily absorbed by most patients than the chlorid of calcium and the taste is much more agreeable. The chlorid is nauseating to many individuals, while the lactate is a tasteless, chalk-like powder.

All the patients were also directed to drink from one to two quarts of milk a day, and some of the improvement probably results from this, for Wright and Knapp⁵ have shown that this accelerates coagulation.

Summarizing the coagulation experiments in the above cases, it is seen that in two of the five it was decidedly above normal, in two others a high normal, and in the fifth a low normal. In all cases the blood must have had a high content of calcium, so the results attained are in accord with those of Wright and Knapp,⁵ who demonstrated by chemical means, in 1902, that blood which contains a small amount of calcium is not always less coagulable, and also that blood containing much lime salts is not necessarily more coagulable than usual.

It has been claimed that the continued administration of calcium chlorid is not effectual in keeping up an increased coagulability of the blood, but, on the contrary, serves to lengthen the time. Consequently, its use has been confined to stopping acute hemorrhages or to prevent hemorrhage at an operation. Whether the effect of the lactate is different in this respect or the improvement is due, in the chronic cases, to the fact that the patients have taken the minimal effective dose I can not say, but concerning the improvement there can be no doubt. In no case has the coagulation time been lengthened by the lactate.

The patient in Case 1, the physician, and the patient in Case 3, the teacher of Latin, are educated men and keen observers. One of them has now been under treatment for five months, the other for four months. By regulating the calcium lactate carefully they can keep themselves infinitely more comfortable than for years.

In the course of these examinations many blood examinations were made. The one constant feature was the very small number of blood plates. Other observers have reported this, but, we believe, have not attached sufficient importance to it. Following such bloods from day to day one can not help thinking that there is a close relationship between the small number of the plates and the liability to bleed. In one of the cases, the plates

suddenly disappearing, it was suggested, fully forty-eight hours before it began, that bleeding was about to recur. Blood from another patient (Case 2), taken the same day on which had occurred the most severe attack of epistaxis for months, showed a total absence of plates, whereas they had previously been present, but much below normal.

After the cessation of the bleeding arsenic was given with the idea of stimulating the hemogenetic organs. While the origin of the plates is still a much disputed point, the fact that they rapidly increased in number soon after beginning the arsenic in Case 5 would argue in favor of the bone marrow as their seat of origin.

During the last few years much has been written on the technic of counting the plates. Pratt's method of diluting the blood with a 2 per cent. solution of sodium metaphosphate and obtaining the ratio of the plates to the red cells is probably the best. While the actual enumeration is more accurate and especially valuable in reporting cases, the technic is arduous and can not be applied in many cases. Heretofore nearly all observers have agreed that little concerning the plates could be learned from a stained specimen. It must be remembered, however, that such investigations were made before the use of the azure dyes was common. We believe that by making evenly smeared, thin specimens and using a stain like Wright's, Leischmann's or the Nocht-Jenner of Hastings, which we have employed, fully as good an idea of the plates can be obtained as by counting them.

Secondary anemias, whether from hemorrhage, neoplasms or various other causes, always show a marked increase in the plates. In all the cases above reported there was at some time distinct anemia, but the plates were constantly reduced.

Another point of difference between the two varieties of anemia is that a leucocytosis is usual with secondary anemias, while it is uniformly absent with the anemia of purpura.

Keeping these points in mind, one should always be able to differentiate between a bleeding from a hemorrhagic diathesis and a hemorrhage from other causes.

New Appliance

A BED LIFT.

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The form of apparatus here described has proved itself so useful in the care of many of my postoperative cases, that it has seemed as though both those connected with larger hospitals as well as many who do most of their work with limited nursing help would welcome its use. There are many forms of bed lifts manufactured by the instrument makers, but all of these, so far as I have been able to discover, are so arranged that the patient must be lifted bodily on the machine, as a patient would be lifted on a stretcher, before it can be used.

DESCRIPTION.

In this form of apparatus, however, one nurse is easily able to place three bands beneath the patient, and thus alone to lift the patient. The one passed beneath the shoulders is readily placed by first lifting one shoulder and pulling the band down underneath the back until the upper border is on a level with the axilla, then the other shoulder is lifted and the band adjusted on this side of the body; the band passing under the hips is first pushed beneath the small of the back, and then first by lifting, or slightly rolling up one hip, and then the other, it is

4. *Ztschr. f. klin. Med.*, 1905, vol. 56, p. 264.
5. *Lancet*, Dec. 6, 1902.