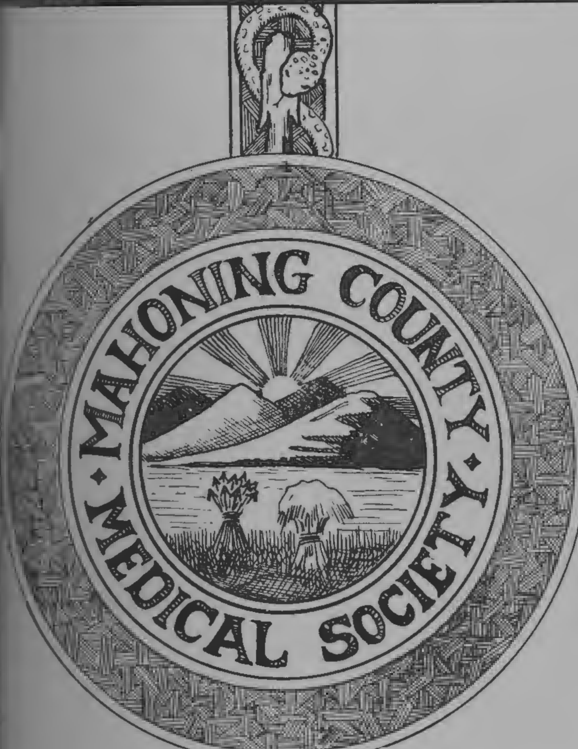

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—Jules Ormont

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XVI No. 3
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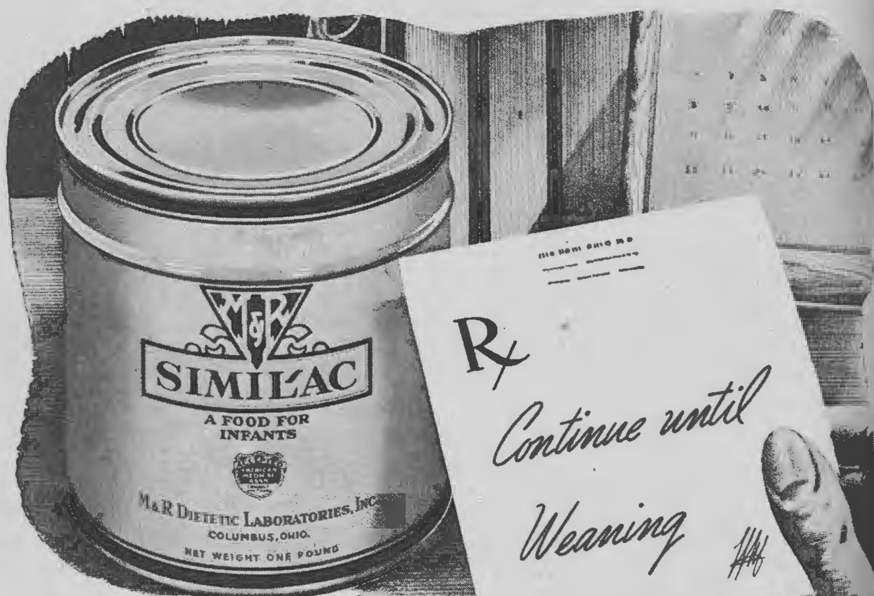

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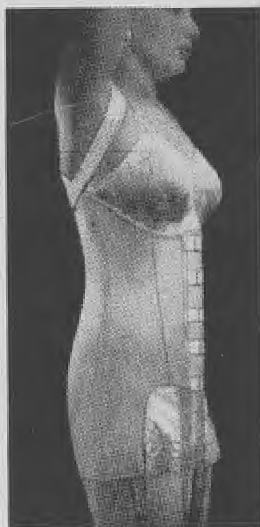

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PRESIDENT'S PAGE

•

The Secretary of the Ohio State Medical Association has asked your president to appoint a committee to work with a like one of the State Society on the examination and possibly treatment of the veterans of World War II, as requested by General Hawley of the Veterans Administration. The committee consists of Drs. G. G. Nelson, chairman, J. N. McCann, W. M. Skipp, G. M. McKelvey and O. J. Walker.

Postgraduate Day

On the 17th of April this year, the Society will hold its great event of the year, "Postgraduate Day."

The group coming to us this year will be from Johns Hopkins University, Baltimore, Maryland, and consists of the following: Dr. W. F. Rienhoff, Asso. Professor of Surgery; Dr. C. W. Wainwright, Asso. Professor of Medicine; Dr. Leroy M. Polvogt, Asso. Professor of Laryngology and Otology; Dr. R. E. Lenhart, Asso. in Orthopedic Surgery, and Dr. H. S. Everett, Asso. Professor of Gynecology.

This group of outstanding men will contribute to making another great "Postgraduate" for us. I am sure every member will join with their friends and make this a big reunion of pre-war and war-time acquaintances.

The advantages our Bulletin promises us are bigger and better displays with all that is new in instruments and medicines.

Colleagues from everywhere, we are looking forward with pleasure to seeing you with us again.

E. J. REILLY, M. D.,
President

BULLETIN of the Mahoning County Medical Society

MARCH 1946

THERAPEUTIC AND TOXIC EFFECTS OF SALICYLATES

By MAJOR F. S. COOMBS, M. C.

The report which I am about to make to you is the result of some of the observations made by colleagues and myself at Truax Field, Madison, Wis., as a part of the Army Air Forces Rheumatic Fever Control Program during the last three years. As you well know salicylates have been used in the treatment of rheumatic conditions for more than 50 years. The two most common members of this drug are sodium salicylate and acetyl salicylic acid. We used these almost interchangeably and I shall refer to them from now on simply as salicylate, since for our purpose they have the same actions.

Late in 1943 we were stimulated by Coburn's report of the efficacy of large doses of salicylate in the treatment of rheumatic fever. Some of you will recall that he advocated the use of 10 grams per day or more, using sodium salicylate intravenously in this amount, but at times interchanging it with similar oral administration. He advocated maintaining the plasma level of salicylate at 35 mg. per 100 cc., or more. In Coburn's series, 38 patients treated in such a manner did not develop valvular heart disease, while in another group of 63 patients who received smaller amounts of salicylate, 21 developed valvular heart disease.

We adopted Coburn's recommendations. Such doses quickly produced the signs of early toxicity as nausea, vomiting, tinnitus, and deafness. We were not deterred to stop the drug because of such symptoms. But soon we noticed symptoms of further toxicity. One of the earliest was a pustular acne, similar to bromidism, appearing on the face, neck and upper parts of the thorax. Two such cases are illustrated in the colored slides. It required approximately one week of 10 to 12 grams of salicylate daily to produce the rash. Ordinary dermatological applications were ineffective in treatment, but the rash disappeared quickly and completely on cessation of the drug.

The next manifestation was one which has been described in the literature for some time, but the explanation of the phenomena we felt was incorrect. After we had been giving large doses of salicylate for about six weeks, one of our patients was found to be hyperventilating and experiencing carpo-pedal spasm, or tetany. Hanzlik and Hartmann as well as others have described this syndrome. The patients seem to have a Kussmal type of breathing, yet on closer scrutiny it differs from classical Kussmal breathing in that the rate of respiration is only slightly or moderately increased, while the depth of respiration is visibly increased, with the emphasis on expiration. Such a syndrome is generally recognized as being due to an alkalosis, but the reports in the literature showed that this condition was associated with a lowered CO_2 in the blood. Since attempts to perform pH determinations were not as refined as is possible today, the condition was called an acidosis. Yet with this syndrome it was found that there was a reduction of kidney function, retention of water and chloride. These are recognized as concomitant changes occurring with an alkalosis. We repeated the studies and found the lowered CO_2 in the blood, increased serum chloride, retention of water, decreased kidney function and increased urinary pH. The next question was to decide whether

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it really was an acidosis or an alkalosis. If we look at the class equation for determining pH,

$$pH = \frac{K \log BHCO3}{\log H_2CO3}$$

we can realize these patients were losing CO_2 from the H_2CO3 part of this equation, thus leaving BHCO3 (base bound to bicarbonate) in excess, resulting in alkalosis. Fortunately we were able to obtain laboratory appartus which measures pH of blood serum electrometrically with good clinical accuracy. The slide shows that when large doses of salicylate are administered the pH of venous blood increased from a normal level of 7.42 to 7.68 which is a very significant amount. On the same slide is shown the method for alleviating such a condition through the use of six grams of sodium bicarbonate daily. The use of such a drug in treating an alkalosis might seem paradoxical, but in this case the dose was not sufficient to enter into the reaction of the blood and its action was through the kidney where it helped excrete the excess salicylate. The increased excretion of salicylate by the use of sodium bicarbonate is illustrated in the next slide.

How do we explain this alkalosis? This explanation has been given before, but now it seems to more adequately fit in with the facts. When the plasma level of salicylate is increased to more than 50 mg. per 100 cc., the respiratory center is directly stimulated so there results an increase in depth of respiration, particularly expiration, thus blowing off the loosely combined CO_2 of H_2CO3.

Of what practical value is this knowledge of an alkalosis occurring after the use of large doses of salicylates in the treatment of rheumatic fever? Many patients with recurring attacks of rheumatic fever are mildly or moderately decompensated. If an alkalosis is produced resulting in the retention of water, the decompensation may be increased leading to untoward results.

The third symptom of major toxicity was a maniacal delerium which came on when blood levels were over 60 mg. per 100 cc. Such a syndrome has also been described as a "salicylate jag." Clinical neurological and spinal fluid findings were absent. We often were confronted with the problem of distinguishing between a salicylate reaction and rheumatic encephalitis, but in the former cases prompt treatment to lower the plasma salicylate level brought about recovery, while in rheumatic encephalitis the symptoms were unrelated to salicylate therapy.

In the near future it is possible that your attention will be called to a new preparation: salicylate combined with vitamin K. Such a product has been based on sound work which unfortunately has been misinterpreted. Link at the University of Wisconsin administered salicylates to rats in doses comparable to those we gave to soldier patients. He reported a moderate increase in prothrombin time. Other investigators have attempted to show that much smaller doses of salicylate will increase the prothrombin time in humans. We administered 10 to 16 grams of salicylate daily for some weeks to more than 100 soldier patients without observing any evidences of clinical hemorrhagic tendencies. Likewise a similar number of patients were given smaller daily doses for an indefinite number of days without observable clinical effects. We were skeptical to the claims that salicylate significantly affected the prothrombin time. We repeated the work using small and large doses of salicylate and used Quick's standard method of measuring prothrombin as well as Link's method of diluted plasma.

In the first slide we show the results of prothrombin times of 17 patients

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*Boas, E. P.: Treatment of the Patient Past Fifty, The Year Book Publishers, Inc., Chicago, 1941, p. 61.

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given 10 or more grams of salicylate daily. Simultaneous plasma salicylate levels are recorded. It would seem from our data that there is an increase in prothrombin time proportional to the plasma salicylate level up to 60 mg. per 100 cc., while after that the prothrombin time increase out of proportion to the salicylate value. Equally as important is the fact with plasma salicylate values of 60 mg. or less the prothrombin time does not exceed 21 seconds (normal 14 seconds). Quick has pointed out that prothrombin values of 25 seconds or less may be considered safe, or without danger of hemorrhage.

In the succeeding slides we were able to show that smaller daily doses of salicylate of 6, 3, 2, or 1 gram daily, which do not raise the plasma level above 20 mg., do not significantly alter the prothrombin time, whether it is measured by Quick's whole plasma method or the so-called more sensitive, diluted (12½%) method of Link. Dr. Quick informs us that he has confirmed our results. This is important, for with small doses of salicylate as are used in the ordinary practice of medicine, one need not fear a disturbance of prothrombin time or the development of hemorrhagic tendencies.

Having warned you of the toxic reactions of salicylates, I would like now to consider their use in the treatment of acute rheumatic fever. In doing so I would like you to remember the report of Coburn's work. We have anlyzed our data on the basis of the effect of salicylate on sedimentation rate, temperature, polycylic rheumatic fever, and organic heart disease. We would like to have included pain, but found it difficult to be objective about it, though we agree with the consensus of opinion that salicylate is very effective in promptly relieving joint pain. We had too few cases with pericarditis to warrant analysis, but our experience was favorable. The effect of salicylate on P-R interval changes in the electrocardiogram also was difficult to analyze since this would require almost daily tracings.

Our study reports 186 soldier patients. Forty-eight received 10 grams or more of salicylate intravenously for seven days, followed by a similar oral amount until the sedimentation remained normal. Another 50 patients were given like doses orally all the time. The remaining 88 received doses averaging less than seven grams daily. The large intravenous and oral dosages produced plasma salicylate levels over 35 mg. per 100 cc.; the smaller oral dose did not. We have arbirarily divided our patients into two groups, severe or moderate, depending upon the initial sedimentation rate. Those whose sedimentation rates were 60 mm. per hour or more were considered severe, the rest moderate. There were 126 severe cases and 60 moderate.

Table I shows the results on the effect of salicylate on the sedimentation rate, indicating that there were no significant differences between severe and modrate cases regardless of the size of the dose of salicylate.

TABLE I

The Effect of Salicylate on the Erythrocyte Sedimentation Rate

	Cases	Mean days elevated E. S. R.
E. S. R. over 60 mm. per hour		
Small Oral	37	58.7
Large Oral	45	51.3
Intravenous	44	61.4
E. S. R. under 60 mm. per hour		
Small Oral	51	35.2
Large Oral	5	36.0
Intravenous	4	27.8

24-hour cultures. *Left*—Sterile water in cup; *Right*—Phe-Mer-Nite in cup. Phe-Mer-Nite dilutions of 1:125,000 to 1:1,000,000 inhibit the growth of streptococci, staphylococci, B. coli, B. typhasus, etc. Dilutions of 1:12,500 to 1:37,500 destroy spore-formers such as B. welchii, B. tetani, and B. chauvei.

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One hundred seventy-one patients had admission temperatures of 99.2° or more. Eighty-nine of these received large doses of salicylate, by mouth or vein, and required 4.16 days to maintan a normal temperature. Eighty-two patients received the smaller doses of salicylate and required 11.6 days to maintain a normal temperature.

The next question we wished to answer was whether salicylate would prevent recurring elevations of the sedimentation rate—or polycylic rheumatic fever. In 1914 Miller reviewed the literature and found 30 per cent of patients receiving salicylate had relapses as compared to only six per cent relapses in patients who did not receive the drug. In the first series of slides that I show you it would seem that adequate salicylate therapy prevents polycylic attacks, but in subsequuent slides we cannot draw that conclusion. In our series, 40 per cent of the patients receiving small doses of salicylate had evidence of recurrences as measured by the sedimentation rate. But 60 per cent of those on large doses had recurring attacks by the same standards.

There were 14 cases in the whole series who developed significant cardiac murmurs not present on admission, or who showed definite progressive changes in pre-existing cardiac abnormalities. Curiously seven cases were treated with large doses and a like number with small doses of salicylate. Table II illustrates the distribution of lesions in 13 cases, the fourteenth case having a questionable enlargement of the heart on pre-existing valvular heart disease.

TABLE II

The Effect of Salicylate on the Development of Valvular Heart Disease

	Small Dose	Large Dose
Aortic Insufficiency	2 cases	2 cases
Mitral Stenosis	1 case	2 cases
Probable Mitral Insufficiency . .	3 cases	3 cases

In summary, based on our experiences, we draw the following conclusions:

1. Salicylate, while not adequate, is still the best drug for the treatment of acute rheumatic fever. More research is indicated on the salicyl radical in an attempt to remove toxic reactions and improve therapeutic efficiency.
2. Salicylate in large doses leads to the following toxic reactions:
   - (a) Acne
   - (b) Respiratory alkalosis
   - (c) Manical delerium
   - (d) Moderate hypoprothrombinemia
3. These toxic reactions can be alleviated by stopping the drug or reducing the plasma level of the drug.
4. Salicylate in small doses such as are commonly used in the practice of medicine do not cause any significant hypoprothrombinemia.

FOR SALE

New Mattern Shock Proof 100 M. A. X-Ray Unit—
complete with Fluorscope and Developing Tank

Write c/o Medical-Dental Bureau, Inc.
125 W. Commerce St.

March Meeting

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RICHARD HUGH LYONS, M. D.

Associate Professor, University of Michigan

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YOUNGSTOWN CLUB

Tuesday, March 19th **8:30 P. M.**

18th Annual

POSTGRADUATE ASSEMBLY

Program by a group from

JOHNS HOPKINS UNIVERSITY
Baltimore, Maryland

Morning Sessions at Hospitals

Afternoon and Evening Sessions at Hotel Pick-Ohio

WILLIAM R. REINHOFF, M. D.
Associate Professor of Surgery

CHARLES W. WAINWRIGHT, M. D.
Associate Professor of Medicine

LEROY M. POLVOGT, M. D.
Professor of Laryngology and Otology

RAYMOND E. LENHART, M. D.
Associate in Orthopedic Surgery

HOUSTON S. EVERETT, M. D.
Associate Professor of Gynecology

Registration fee $5.00, includes dinner

Our-of-town Physicians Most Cordially Invited

WEDNESDAY, APRIL 17th, 1946

Pick - Ohio Hotel

Youngstown, Ohio

NEWS ITEMS

Commander Martin Conti,
c/o F. P. O., San Francisco, Calif.

I presume, that since I was the first medico to join the services at the time a national emergency was declared in 1939, it has been such a long time that they have just forgotten me, eh.

I have a swell spot here in the Pacific and am now a full Commander. This is truly a paradise isle with the most ideal climate in the whole world. In December I was away for a nice three-week jaunt to China and Japan. A very interesting trip and stopped at Kwajalein, Guam, Okinawa, Iwo Jima, Shanghai, Tientsin, Peiping and Nagasaki in Japan. Saw where the atomic bomb was dropped and you can't imagine such destruction.

I'm hoping to return to Pearl Harbor in the near future, so I can have Virginia and the children join me.

Sincerest regards,

MARTY.

Dr. Richard H. Middleton has returned after more than three years of military duty and will resume his practice. Dr. Middleton, who held the rank of major, recently returned from the South Pacific where he served on Saipan as Chief of Communicable Diseases for the 304th General Hospital, and also as Acting Chief of Medicine. He has just returned from Toronto, Canada, after taking a several weeks' refresher course at the Hospital for Sick Children, under Dr. Allan Brown, noted pediatrician.

Dr. and Mrs. D. H. Smeltzer have left for a month's vacation in Florida.

Dr. and Mrs. Donald A. Gross have returned home after a visit at Buckhill Falls in the Poconos.

Dr. Joseph A. Tuta is pathologist at the Seaside Memorial Hospital in Long Beach, California. He expects to return to Youngstown for a visit this summer.

Dr. Joseph Colla has opened offices in the Dollar Bank Bldg. After practicing for a couple of months, Uncle Sam notified him of his promotion to rank of Major. Congratulations "Joe."

Dr. and Mrs. Earl Brant are vacationing at Chandler, Arizona.

James Robert Lindsay is an ensign in the USNR. He is the son of Dr. J. F. Lindsay.

Dr. Herman Kling is practicing at Albuquerque, New Mexico. His address is 317 S. Solano Avenue.

Dr. and Mrs. H. M. Osborne recently visited their daughter in Long Beach, California.

We extend our sympathy to Dr. Samuel Klatman on the recent death of his father, Mr. Nathan O. Klatman.

Dr. Gordon Nelson has been named a member of the state committee on medical care of veterans. He was chosen by representatives of the Ohio State Medical Association which has endorsed the program of the Veterans Administration for medical care of veterans with service-connected disabilities in their own communities. Maj. Gen. Paul R. Hawley, medical director of the Veterans Administration, desires disabled veterans who do not need hospitalization get medical care from doctors in their own communities.

Dr. and Mrs. W. O. Mermis have returned from a month's trip to Florida.

Dr. O. M. Lawton addressed the staff of the Youngstown Receiving Hospital January 29th and his subject was "The Neurosis." A transcript of this address will appear in a later issue of the Bulletin.

The Trumbull County Medical Society held its monthly meeting on February 21st at the Warner Hotel in Warren. The speaker was Dr. George Dickson of Cleveland. His subject was "Hip Fractures." Members of the Mahoning County Medical Society are always cordially invited to attend these meetings. The meetings are held the third Thursday of each month.

Dr. and Mrs. W. E. Maine were guests recently at the Plaza Hotel, New York City, where Dr. Maine took an extensive postgraduate course in Proctology.

Dr. R. R. Olson spoke at the regular monthly meeting of the Consulting Staff, Youngstown Receiving Hospital, Tuesday, February 26th, on the Different Types of Treatment of Mental Diseases and their complications.

Dr. Frances A. Miller was a recent visitor in Philadelphia.

Capt. Robert L. Piercy who was with the Army Medical Corps at Fort Lewis, Washington, has been released from the service and is on terminal leave.

THE PEDANT'S CORNER

Good scientists are sensitive to accuracy

DON'T SAY	SAY
ver-TE-bral	VER-te-bral
au-TOP-sy	AU-top-sy
ap-pen-di-SEE-al	ap-pen-DIS-e-al

WOMEN'S AUXILIARY OF THE MAHONING COUNTY MEDICAL SOCIETY

Mrs. L. George Coe, President

Mrs. C. A. Gustafson, Vice President — **Mrs. John Rogers,** Secretary

Mrs. W. K. Allsop, President-Elect — **Mrs. M. M. Kendall,** Treasurer

The Women's Auxiliary to the Mahoning County Medical Society held the first meeting of the year Monday, February 18th at the Women's City Club. Members gathered for a beautifully arranged dessert bridge which was given as a welcome home party for the wives of doctors recently discharged from war service. New members shared honors with them.

Mrs. L. G. Coe, president, opened the well attended meeting with greetings to the guests of honor. The business session was mainly devoted to the establishment of a Project Committee to replace the War Service Committee. It shall be the duty of the new committee to outline a plan for peacetime service which will best serve the Mahoning County Medical Society and the entire community.

Dr. E. E. Elder of the Youngstown Receiving Hospital will be the guest speaker at the next meeting which is scheduled for Monday, March 25th.

CHARLOTTE R. GOLDBLATT

OHIO STATE NURSES ASSOCIATION

District Number Three

Professional nurses from District No. 3, Ohio State Nurses' Association are proud of the honor conferred upon one of their members, Mrs. Ruth Neilson Aubrey, R. N., Director of School of Nursing, Youngstown Hospital Association, through her recent appointment by Governor Lausche to membership on the State Nurses' Board. Mrs. Aubrey is a graduate of Youngstown Hospital, Class of 1931, she received her B. S. in Nursing Education from Teachers' College, Columbia University, 1937. From 1937 to 1939 she was Science Instructor at the Saginaw General Hospital, Saginaw, Michigan, returning to Youngstown Hospital Association in 1939, she served as Assistant Director School of Nursing until 1944, when she became the Director. We extend congratulations and good wishes.

During 1945, because of the war emergency and the urgent demand for every available nurse, the State Board made it possible for eligible graduates to set for their examination practically as soon as they had completed their prescribed course. Four examinations were held during the year in March, July, September and November in different parts of the state, Cincinnati, Cleveland, Columbus, Toledo and Youngstown, the larger nursing centers. Thus young graduates were made immediately available to the military and civilian positions. Because of machine scoring the results of the examinations were rated, tabulated and certificates issued within four to six weeks. Phenomenal when you consider subjects covered, the length of the examination and the number of applicants examined. 140 nurses from Youngstown alone received their R. N. last year.

Ninth Post-Collegiate Assembly
Ohio State University

The College of Medicine, Ohio State University on March 27, 1946 is resuming the annual Post-Collegiate Assembly. All doctors of Medicine are invited to attend this one day refresher course.

Five million dollars was appropriated by the last Ohio Legislature to expand the facilities for the College of Medicine and Dentistry. Improved hospital and teaching buildings are being planned to provide Ohio with a great training and research Medical-Health Center.

Dean Charles A. Doan, appointed in January 1945, will outline the future program of training physicians, adjunct workers, graduate instruction and research at Ohio's only state supported medical college.

Seven newly appointed faculty members will present the latest medical teaching approach to current disease problems.

The Army will augment the program by a colored sound motion picture of the atomic bomb from its experimental phases to the results in Japan. Lt. Colonel H. L. Friedell, executive officer Manhattan Project, Medical Research Section; a Minnesota graduate in engineering, medicine and radiology; will lecture on the physical effects of atomic energy on the people in Hiroshima.

Class reunions and fraternity banquets will follow this 112th Anniversary Assembly.

RUSSEL G. MEANS, M. D.,
Chairman

SECRETARY'S REPORT

Correction

The following is paragraph I of the latter received from the American Red Cross, published in the January issue of the *Bulletin,* as it should have appeared:

1. When Red Cross is asked to assume payment for shots, we cannot approve payment of more than $1.50 per shot, including medication. This is in accordance with Industrial Commission rates. If we are to assume payment it must be understood that $1.50 per shot is the full payment. Client is not to be billed for the balance.

(The following as it was approved.)

1. When Red Cross is asked to assume payment for shots, we cannot approve payment of more than $1.00 per shot, plus medication costs to Doctor. If we are to assume payment it must be understood that $1.00 per shot (plus cost of medicine to Doctor) is the full payment. Client is not to be billed for the balance and subject to approval of Medical Committee.

Monthly Council Meeting

The regular monthly Council Meeting was held in the office of the Secretary on the 11th of February. The following doctors were present: V. L. Goodwin, E. J. Reilly, C. A. Gustafson, E. C. Baker, W. M. Skipp, E. H. Nagel and P. J. McOwen.

Secretary read a letter from Dr. J. P. Harvey, asking Council to accept his resignation. Dr. Harvey has been acting as censor, filling the unexpired term of Dr. W. H. Evans, who has now returned from military service. Council accepted the resignation.

Council discussed Medical Care for Veterans. The following committee was appointed to work with the State Committee: Drs. G. G. Nelson, chairman, W. M. Skipp, J. N. McCann, G. J. Walker and G. M. McKelvey.

"Cancer Control" was discussed.

Censors presented the following for membership:

Associate Membership	Interne Membership
Dr. R. A. Olson	Dr. S. W. Ondash
Dr. F. G. Kravec	Dr. J. J. Sofranec
Dr. E. E. Elder	

Unless objection in writing is filed with the Secretary within 15 days, the above applicants become members of the Society.

V. E. Goodwin, Secretary

PREPAYMENT PLANS

The number of voluntary prepayment medical care plans continues to increase. As of January 1, 1946 fifty-nine different plans were in operation in twenty-five states. The fifty-nine plans mentioned vary widely in many respects, but with few exceptions they have certain basic characteristics. The general purposes of pre-payment plans are—or should be—the same.

One of the recommendations that seems likely to be approved by the Trustees and the Council is that a set of standards be devised as a basis for official A. M. A. approval. The suggestion has been made that approval would carry with it an official emblem similar to the Blue Cross.

Recent developments in the provision of medical care for veterans may well prove a pattern for future programs of the Veterans' Administration. The California Physicians' Service and Michigan Medical Service have both signed contracts with the veterans' agency to assist in its medical care programs. Kansas and Washington (state) are working on plans.

The idea behind this move is to provide a means for permitting veterans to receive treatment and care for service-connected disabilities from their local doctors and in their local hospitals instead of going to V. A. facilities.

The Prepayment Plan merely acts as an agent, accepting bills from the doctors on the basis of a locally agreed upon schedule of fees. For this service the Plans receive a stipulated percentage for the cost of administration. All forms to be used are developed locally with red-tape held to a minimum.

The Fergus County (Montana) Medical Society published a full page newspaper spread on the cost of M-W-D bill. Stating that "the word tax is carefully avoided in these measures," it goes on to show the probable tax to persons in various income groups:

Your Salary	Your Tax	Employer's Tax
$100 per mo.	$ 4.00 per mo.	$ 4.00 per mo. or $ 96.00 per year
200 per mo.	8.00 per mo.	8.00 per mo. or 192.00 per year
300 per mo.	12.00 per mo.	12.00 per mo. or 288.00 per year

The promotion of prepayment medical plans has proceeded much more slowly than that of hospital plans. In most cases the promotion of both plans has been left to Blue Cross. The California Medical Association, however, is planning a new idea, a voluntary health insurance advertising campaign. Use will be made of the regular channels—daily and weekly newspapers, radio, and possibly trade magazines.

COUNCIL ON MEDICAL SERVICE AND PUBLIC RELATIONS
OF THE AMERICAN MEDICAL ASSOCIATION

THE LIBRARY CORNER

The Role of Di-ethyl Stilbesterol in Prostatic Hypertrophy

Since the work of Charles Huggins in 1941 on estrogenic therepy in prostatic sarcinoma, there have been so many conflicting reports on the use of sex hormones in genito-urinary disease, that some confusion has arisen as to the clinical application of estrogenic hormones.

Huggins showed that the cells of the adult epithelium of the prostate are extremely sensitive to and their complete natural history is altered by the male sex hormone. This hormone activates the growth of the cell, and in many patients this inactivation of the male sex hormone brings about a retrogression of the cancer cells. Such inactivation can be accomplished in two ways: (1) Castration, (2) Administration of estrogen. If the androgenic substance were secreted only by the testes, castration should completely prevent further activation of the epithelium. However, this evidently is not true since after orchiectomy the androgenic substance frequently increases. Therefore, the extra gonadal androgenic hormone is produced by some other internal gland of secretion, undoubtedly the adrenal. After orchiectomy, there is the problem of repressing this second androgenic hormone and this may be accomplished by neutralization with the female hormone di-ethylstilbesterol.

Stilbesterol presents a great advance in the therapy of, but is not the complete answer to carcinoma of the prostate. Whenever possible, operative measures are the first choice, and it is when these measures are not applicable that stilbesterol is of great value. Perhaps its best use is in conjunction with surgery; either orchiectomy or transurethral section. When administered to patients with definite signs of carcinoma of the prostate, it causes regression of the prostate, gives relief from the pain of metastasis and relief from urinary symptoms. However, this is temporary and only polliative for 1-2 years. Later the symptoms return in most patients and it has been found necessary to regulate the dosage of the hormone at intervals following recurrence of the symptoms. Perhaps the only indications for estrogen therapy alone is in patients refusing castration or where the lesion is far advanced and only polliative measures are indicated.

In conjunction with surgery, the hormone has thus far proven to be of great value. Colston has used it in far advanced cases of carcinoma to bring about regression of the prostatic neoplasms so that radical operation might be successfully carried out. His patients were carried on a dosage of 1 mg. of di-ethyl stilbesterol for two month with good results. When combined with orchiectomy or trans-urethral resection the results in patients followed thus far are good. There has been relief from pain, regression of the neoplastic process, regression of the osseous and lymph node metastasis, and relief from urinary symptoms. Such patients have been carried on .2-10 mgs. of stilbesterol daily for several months.

Estrogen therapy is a supplement to orchiectomy, but it has not supplanted

it. Most workers agree that it should be used in: (1) those cases refusing operation, (2) in far advanced inoperable conditions, (3) in conjunction with castration or prostatic resection. It is of little, if any benefit in benign prostatic hypertrophy. It will not cure cancer; it will in many cases retard the growth temporarily. It is too early to qualify the results obtained by its use, but the use of the hormone has opened up a new field in the treatment of carcinoma of the prostate . It prolongs the life and gives comfort to the elderly patient with the neoplastic disease. S. K.

SERVICE RECORD

LT. COL. HAROLD E. HATHHORN

Dr. Hathhorn entered the Army in 1942. He was stationed at a hospital at Camp Adair, Oregon for 18 months before he went overseas. He was chief of medical service of the 83rd General Hospital in England and France for 16 months. After his return from overseas several months ago, he was sent to Camp Shelby, Miss., as chief medical consultant at the separation center there.

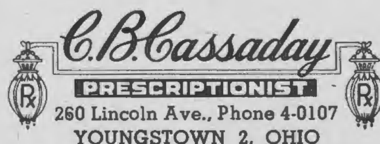
MAJOR BARCLAY M. BRANDMILLER

Dr. Brandmiller was in the Army for 44 months, 26 of which were spent overseas. He holds a bronze arrowhead and five campaign stars. He was attached to the amphibious engineers, 593rd Engineer Boat and Shore Regiment, and made four combat landings in New Guinea—at Aitape, Wake Island, Sarmi and Noemfoor Isle. Later he followed occupation forces in the Philippines and Japan. He was regimental surgeon. During the invasions the medical unit was set up only for first aid treatment and plasma. Those seriously wounded were evacuated to stations further behind. In Noemfoor they were so isolated that the patients had to be flown out by plane. Following the invasion of Japan, Dr. Brandmiller was assigned with the occupation troops to Otaru, in the southern part of Hokkaido.

CAPT. LEWIS S. SHENSA

Dr. Shensa spent 42 months in the Army Medical Corps. With the Fourth Division for six months, he was in the field until he went to Oliver General Hospital, Augusta, Ga., on limited service. From there he was transferred to station hospital at Camp Sibert, Ala., as chief of medicine. He was chief of fever therapy at Lawson General Hospital, Atlanta, for two years, and for 8 months was in internal medicine at the U. S. General Hospital, Camp Butner, N. C.

AMPOULES - VIALS BIOLOGICALS



SURGICAL DRESSINGS SICK ROOM SUPPLIES

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FOR QUICK REFERENCE—POST IN CONSPICUOUS PLACE

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B. M. Brandmiller, M. D.	2020 Market St.	29114
R. V. Clifford, M. D.	19 Lincoln Avenue	77322
Joseph Colla, M. D.	518 Dollar Bank Bldg.	32256
C. H. Cronick, M. D.	160 W. Princeton Avenue	25300
A. R. Cukerbaum, M. D.	Home Savings & Loan Bldg.	73211
Sidney L. Davidow, M. D.	338 Lincoln Avenue	77093
G. E. DeCicco, M. D.	1008 Market Street	31215
Samuel Epstein, M. D.	2004 Elm Street (Dr. Yarmy's Office)	32625
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H. H. Ipp, M. D.	306 Home Savings & Loan Bldg.	27086
P. M. Kaufman, M. D.	304-5 Home Savings & Loan Bldg.	45121
M. M. Kendall, M. D.	Home Savings & Loan Bldg.	36762
J. P. Keogh, M. D.	812 Home Savings & Loan Bldg.	79217
J. E. L. Keyes, M. D.	617 Home Savings & Loan Bldg.	73643
Samuel Klatman, M. D.	409 City Bank Bldg.	31422
Herman Kling, M. D.	317 So. Solan St., Albuquerque, New Mexico	
O. M. Lawton, M. D.	Mahoning Bank Bldg.	33314
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G. G. Nelson, M. D.	138 Lincoln Avenue	77650
R. E. Odom, M. D.	510 Dollar Bank Bldg.	42147
S. W. Ondash, M. D.	2514 Mahoning Avenue	95358
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IT DOES HAPPEN HERE

Severe rickets still occurs — even in sunny climate

Vitamin D has become such an accepted practice in infant feeding that it is easy to think that rickets has been eradicated. However, even deforming rickets is still seen, as witness the above three contemporary cases from three different sections of the United States, two of them having well above the average annual sunshine hours for the country. In no case had any antiricketic been given during the first two years of life. *It is apparent that sunlight did not prevent rickets.* In other cases of rickets, cod liver oil was given inadequately (drop dosage) and even this was continued only during the winter months.

To combat rickets simply, inexpensively, effectively—

OLEUM PERCOMORPHUM

This highly potent source of natural vitamins A and D, if administered regularly from the first weeks of life, will not only prevent such visible stigmata of rickets pictured above, but also many other less apparent skeletal defects that might interfere with good health. What parent would not gladly pay for this protection! And yet the average prophylactic dose of Oleum Percomorphum costs less than one cent a day. Moreover, since the dosage of this product is measured in drops, it is easy to administer Oleum Percomorphum and babies take it willingly. Thus there is assurance that vitamin D will be administered *regularly*.

EXIGENCY OF WAR

Oleum Percomorphum 50% is now known as Oleum Percomorphum With Other Fish Liver Oils and Viosterol. A source of vitamins A and D in which not more than 50% of the vitamin D is derived from Viosterol. The potency remains the same; namely, 60,000 vitamin A units and 8,500 vitamin D units per gram.

MEAD JOHNSON & COMPANY, Evansville 21, Indiana, U.S.A.